



Guidelines for Estimating Crop Production Costs 2018

in Manitoba



Guidelines For Estimating Crop Production Costs - 2018

Date: January, 2018

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

The [CropPlan Production Cost Calculator](#) is also available for producers to estimate the cash cost of producing field crops on their farm on an annual basis. CropPlan 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 office.

Crop Production Costs 2018 Guidelines (Dollars Per Acre)								
	Canola	Wheat - Hard Red Spring	Soybeans	Barley	Oats	Wheat - Winter	Corn	Wheat - Northern Hard Red
A. Operating Costs								
Seed & Treatment	\$60.00	\$24.00	\$95.10	\$15.00	\$18.13	\$20.00	\$86.25	\$22.00
Fertilizer	\$73.85	\$57.38	\$18.45	\$44.98	\$41.09	\$61.27	\$89.75	\$65.16
Herbicide	\$13.13	\$26.21	\$8.67	\$24.88	\$9.50	\$13.83	\$22.50	\$26.21
Fungicide	\$21.88	\$17.25	\$0.00	\$17.25	\$10.13	\$17.25	\$0.00	\$17.25
Insecticide	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Fuel	\$18.70	\$20.05	\$17.67	\$21.09	\$23.74	\$21.05	\$25.81	\$21.13
Machinery Operating	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Machinery Lease	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88
Rental and Custom	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Crop Insurance	\$7.59	\$7.52	\$17.47	\$7.62	\$8.13	\$6.94	\$26.74	\$9.94
Hail Insurance	\$6.55	\$5.04	\$7.56	\$5.04	\$5.04	\$5.04	\$5.04	\$5.04
Other Costs	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75
Land Taxes	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00
Drying Costs	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$35.00	\$0.00
Interest on Operating	<u>\$5.93</u>	<u>\$4.83</u>	<u>\$5.01</u>	<u>\$4.29</u>	<u>\$3.78</u>	<u>\$4.53</u>	<u>\$8.17</u>	<u>\$5.06</u>
Total Operating	\$243.27	\$197.91	\$205.55	\$175.78	\$155.17	\$185.53	\$334.89	\$207.42
B. Fixed Costs								
Land Investment Costs	\$64.68	\$64.68	\$64.68	\$64.68	\$64.68	\$64.68	\$64.68	\$64.68
Machinery Depreciation	\$45.71	\$45.71	\$45.71	\$45.71	\$45.71	\$45.71	\$51.47	\$45.71
Machinery Investment	\$18.76	\$18.76	\$18.76	\$18.76	\$18.76	\$18.76	\$21.13	\$18.76
Storage Costs	<u>\$5.59</u>	<u>\$7.69</u>	<u>\$5.59</u>	<u>\$10.20</u>	<u>\$14.68</u>	<u>\$9.37</u>	<u>\$19.71</u>	<u>\$9.51</u>
Total Fixed	\$134.74	\$136.84	\$134.74	\$139.35	\$143.83	\$138.51	\$156.99	\$138.65
Total Operating & Fixed	\$378.01	\$334.74	\$340.29	\$315.13	\$298.99	\$324.05	\$491.87	\$346.07
C. Labour								
	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Total Costs	\$408.01	\$364.74	\$370.29	\$345.13	\$328.99	\$354.05	\$521.87	\$376.07
Profitability Analysis								
Estimated Farmgate								
Target Price \$ per unit	\$11.25	\$6.85	\$10.50	\$3.85	\$3.25	\$4.85	\$4.00	\$6.00
Premium \$ per unit	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Target Yield per acre	40	55	40	73	105	67	141	68
Unit type (bu. or lb.)	bu	bu	bu	bu	bu	bu	bu	bu
Gross Revenue / acre	\$450.00	\$376.75	\$420.00	\$281.05	\$341.25	\$324.95	\$564.00	\$408.00
Revenue Ranking	5	9	7	16	12	13	1	8
Operating Expense Ratio	54.1%	52.5%	48.9%	62.5%	45.5%	57.1%	59.4%	50.8%
Marginal Returns								
Over Operating Costs	\$206.73	\$178.84	\$214.45	\$105.27	\$186.08	\$139.42	\$229.11	\$200.58
Over Operating & Fixed	\$71.99	\$42.01	\$79.71	(\$34.08)	\$42.26	\$0.90	\$72.13	\$61.93
Over Total Costs (Net Profit)	\$41.99	\$12.01	\$49.71	(\$64.08)	\$12.26	(\$29.10)	\$42.13	\$31.93
Profitability Ranking	4	10	2	17	9	14	3	6
Return on Investment (ROI)	10.29%	3.29%	13.42%	(18.57%)	3.73%	(8.22%)	8.07%	8.49%
Return on Asset (ROA)	3.67%	2.89%	3.89%	0.83%	3.09%	1.79%	4.14%	3.50%
Breakeven Analysis								
Breakeven Price Per Unit								
Over Operating Costs	\$6.08	\$3.60	\$5.14	\$2.41	\$1.48	\$2.77	\$2.38	\$3.05
Over Operating & Fixed Costs	\$9.45	\$6.09	\$8.51	\$4.32	\$2.85	\$4.84	\$3.49	\$5.09
Over Total Costs	\$10.20	\$6.63	\$9.26	\$4.73	\$3.13	\$5.28	\$3.70	\$5.53
Breakeven Yield (Bu or lb.)								
Over Operating Costs	21.6	28.9	19.6	45.7	47.7	38.3	83.7	35
Over Operating & Fixed Costs	33.6	48.9	32.4	81.9	92.0	66.8	123.0	57.7
Over Total Costs	36.3	53.2	35.3	89.6	101.2	73.0	130.5	63
Breakeven Yield Risk Ratio	110%	103%	113%	81%	104%	92%	108%	108%
(Target Yield per Acre / BE Yield)								

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.

Crop Production Costs 2018 Guidelines (Dollars Per Acre)

Flaxseed	Fall Rye	Peas	Sunflower Confection	Beans - Pinto	Beans - White	Sunflower Oil	Wheat - Special Purpose	Wheat - Prairie Spring	Your Farm
\$22.80	\$10.50	\$30.25	\$48.31	\$70.00	\$81.25	\$38.00	\$22.00	\$22.00	
\$43.03	\$39.14	\$13.84	\$62.18	\$41.09	\$44.98	\$62.18	\$61.27	\$61.27	
\$18.25	\$6.70	\$16.00	\$43.79	\$66.21	\$66.21	\$24.75	\$26.21	\$26.21	
\$14.38	\$0.00	\$14.38	\$20.25	\$39.50	\$39.50	\$0.00	\$17.25	\$17.25	
\$0.00	\$0.00	\$0.00	\$4.73	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
\$17.66	\$17.21	\$15.75	\$20.08	\$15.22	\$15.15	\$20.08	\$21.13	\$21.13	
\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	
\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	
\$0.00	\$0.00	\$0.00	\$17.00	\$0.00	\$0.00	\$8.50	\$0.00	\$0.00	
\$9.06	\$8.83	\$12.27	\$28.78	\$27.50	\$23.15	\$17.02	\$9.94	\$7.55	
\$5.04	\$5.04	\$10.08	\$5.04	\$8.82	\$8.82	\$5.04	\$5.04	\$5.04	
\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	
\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	
\$0.00	\$0.00	\$0.00	\$10.00	\$0.00	\$0.00	\$10.00	\$0.00	\$0.00	
<u>\$4.15</u>	<u>\$3.08</u>	<u>\$3.71</u>	<u>\$7.39</u>	<u>\$7.60</u>	<u>\$7.87</u>	<u>\$5.53</u>	<u>\$4.96</u>	<u>\$4.90</u>	
\$170.00	\$126.13	\$151.91	\$303.18	\$311.57	\$322.56	\$226.73	\$203.42	\$200.97	
\$64.68	\$64.68	\$64.68	\$64.68	\$64.68	\$64.68	\$64.68	\$64.68	\$64.68	
\$45.71	\$45.71	\$45.71	\$51.47	\$49.06	\$49.06	\$51.47	\$45.71	\$45.71	
\$18.76	\$18.76	\$18.76	\$21.13	\$20.14	\$20.14	\$21.13	\$18.76	\$18.76	
<u>\$3.35</u>	<u>\$8.11</u>	<u>\$5.59</u>	<u>\$10.06</u>	<u>\$4.19</u>	<u>\$4.08</u>	<u>\$10.06</u>	<u>\$9.51</u>	<u>\$9.51</u>	
\$132.50	\$137.26	\$134.74	\$147.34	\$138.07	\$137.95	\$147.34	\$138.65	\$138.65	
\$302.50	\$263.39	\$286.65	\$450.52	\$449.63	\$460.51	\$374.07	\$342.08	\$339.63	
\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	
\$332.50	\$293.39	\$316.65	\$480.52	\$479.63	\$490.51	\$404.07	\$372.08	\$369.63	

Profitability Analysis

\$12.50	\$4.50	\$7.50	\$0.28	\$0.31	\$0.30	\$0.24	\$5.20	\$5.20	
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
24	58	40	1,800	1,800	1,750	1,800	68	68	
bu	bu	bu	lb	lb	lb	lb	bu	bu	
\$300.00	\$261.00	\$300.00	\$504.00	\$558.00	\$525.00	\$432.00	\$353.60	\$353.60	
14	17	14	4	2	3	6	10	10	
56.7%	48.3%	50.6%	60.2%	55.8%	61.4%	52.5%	57.5%	56.8%	
\$130.00	\$134.87	\$148.09	\$200.82	\$246.43	\$202.44	\$205.27	\$150.18	\$152.63	
(\$2.50)	(\$2.39)	\$13.35	\$53.48	\$108.37	\$64.49	\$57.93	\$11.52	\$13.97	
(\$32.50)	(\$32.39)	(\$16.65)	\$23.48	\$78.37	\$34.49	\$27.93	(\$18.48)	(\$16.03)	
16	15	12	8	1	5	7	13	11	
(9.77%)	(11.04%)	(5.26%)	4.89%	16.34%	7.03%	6.91%	(4.97%)	(4.34%)	
1.52%	1.66%	2.03%	3.34%	4.69%	3.46%	3.47%	2.09%	2.16%	

Breakeven Analysis

\$7.08	\$2.17	\$3.80	\$0.17	\$0.17	\$0.18	\$0.13	\$2.99	\$2.96	
\$12.60	\$4.54	\$7.17	\$0.25	\$0.25	\$0.26	\$0.21	\$5.03	\$4.99	
\$13.85	\$5.06	\$7.92	\$0.27	\$0.27	\$0.28	\$0.22	\$5.47	\$5.44	
13.6	28	20	1082.8	1005.0	1075	945	39.1	39	
24.2	58.5	38.2	1609.0	1450.4	1535.0	1558.6	65.8	65.3	
26.6	65	42	1716.1	1547.2	1635	1684	71.6	71	
90%	89%	95%	105%	116%	107%	107%	95%	96%	

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Agrilinsurance Analysis

	Canola	Wheat - Hard Red Spring	Soybeans	Barley	Oats	Wheat - Winter	Corn	Wheat - Northern Hard Red
Agrilinsurance								
80% Insured Value	\$323.25	\$254.66	\$303.80	\$178.35	\$222.73	\$248.63	\$341.40	\$239.00
Premium Cost (% of Insured)	2.3%	3.0%	5.7%	4.3%	3.7%	2.8%	7.8%	4.2%
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	\$54.76	\$80.09	\$36.49	\$136.78	\$76.26	\$75.41	\$150.47	\$107.07
Total Costs	\$84.76	\$110.09	\$66.49	\$166.78	\$106.26	\$105.41	\$180.47	\$137.07
Agrilinsurance Risk Ratio	(Agrilinsurance Coverage / Cost)							
Operating Costs	133%	129%	148%	101%	144%	134%	102%	115%
Total Costs	79%	70%	82%	52%	68%	70%	65%	64%
Risk Ranking	10	9	16	1	14	11	2	4
(Lower number indicates increasing risk)								

Risk & Sensitivity Analysis (Stress Test)

Percent Market Price Change	-10.0%
Percent Crop Yield Change	-5%

	Canola	Wheat - Hard Red Spring	Soybeans	Barley	Oats	Wheat - Winter	Corn	Wheat - Northern Hard Red
Market Price (\$ per unit)	\$10.13	\$6.17	\$9.45	\$3.47	\$2.93	\$4.37	\$3.60	\$5.40
Yield (per acre)	38	52	38	69	100	64	134	65

Stress Test Scenario = Market Price Down 10%, and Crop Yield Down 5%

Net Profit (Loss)	(\$23.26)	(\$44.16)	(\$11.19)	(\$106.04)	(\$36.49)	(\$74.69)	(\$39.47)	(\$25.07)
Profitability Ranking	3	9	2	17	6	16	7	4
Operating Expense Ratio	63.2%	61.7%	57.2%	73.5%	53.0%	66.4%	69.4%	59.1%

Rotation Economic Analysis

Data Source – MASC Harvest Production Reports (2010-2015)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Rotation Total Marginal Return
Example Rotation #1	Wheat - Hard Red Spring	Canola	Wheat - Hard Red Spring	Canola	Wheat - Hard Red Spring	Canola	
Rotation Yield Premium	100%	102%	101%	102%	101%	102%	-
Net Profit (Loss)	\$12.01	\$50.99	\$15.77	\$50.99	\$15.77	\$50.99	\$197

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Rotation Total Marginal Return
Example Rotation #2	Corn	Canola	Wheat - Hard Red Spring	Soybeans	Corn	Canola	
Rotation Yield Premium	100%	112%	101%	101%	103%	112%	-
Net Profit (Loss)	\$42.13	\$95.99	\$15.77	\$53.91	\$59.05	\$95.99	\$363

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AgrilInsurance Analysis

Flaxseed	Fall Rye	Peas	Sunflower Confection	Beans - Pinto	Beans - White	Sunflower Oil	Wheat - Special Purpose	Wheat - Prairie Spring	Your Farm
\$207.08	\$183.54	\$231.66	\$372.29	\$443.84	\$395.34	\$319.10	\$239.00	\$207.24	_____
4.4%	4.8%	5.3%	7.7%	6.2%	5.9%	5.3%	4.2%	3.6%	_____
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	_____
\$95.42	\$79.85	\$54.99	\$78.23	\$5.80	\$65.17	\$54.97	\$103.07	\$132.39	_____
\$125.42	\$109.85	\$84.99	\$108.23	\$35.80	\$95.17	\$84.97	\$133.07	\$162.39	_____
122%	146%	152%	123%	142%	123%	141%	117%	103%	_____
62%	63%	73%	77%	93%	81%	79%	64%	56%	_____
6	15	17	8	13	7	12	5	3	_____

Risk & Sensitivity Analysis (Stress Test)

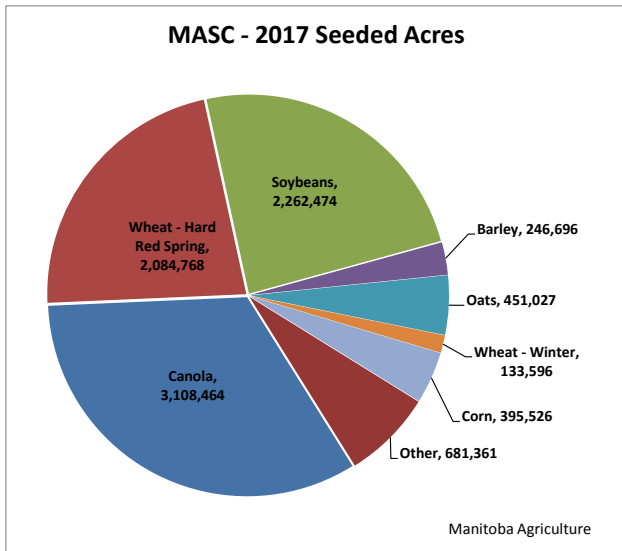
Flaxseed	Fall Rye	Peas	Sunflower Confection	Beans - Pinto	Beans - White	Sunflower Oil	Wheat - Special Purpose	Wheat - Prairie Spring	Your Farm
\$11.25	\$4.05	\$6.75	\$0.25	\$0.28	\$0.27	\$0.22	\$4.68	\$4.68	_____
23	55	38	1710	1710	1663	1710	65	65	_____
(\$73.75)	(\$70.64)	(\$60.15)	(\$49.60)	(\$2.54)	(\$41.50)	(\$34.71)	(\$67.88)	(\$65.43)	_____
15	14	11	10	1	8	5	13	12	_____
65.7%	56.6%	59.2%	70.4%	65.3%	71.8%	61.4%	66.9%	66.1%	_____

Rotation Economic Analysis

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Example Rotation #3	Wheat - Hard Red Spring	Canola	Oats	Soybeans	Corn	Sunflower Confection	Rotation Total Marginal Return
Rotation Yield Premium	100%	102%	101%	100%	103%	119%	-
Net Profit (Loss)	\$12.01	\$50.99	\$15.67	\$49.71	\$59.05	\$119.24	\$307

		Wheat - Hard Red Spring	Canola	Soybeans	Wheat - Hard Red Spring	Canola	Rotation Total Marginal Return
Your Farm Rotation	Soybeans	Wheat - Hard Red Spring	Canola	Soybeans	Wheat - Hard Red Spring	Canola	Rotation Total Marginal Return
Rotation Yield Premium	100%	108%	102%	100%	108%	102%	-
Net Profit (Loss)	\$49.71	\$42.15	\$50.99	\$49.71	\$42.15	\$50.99	\$286

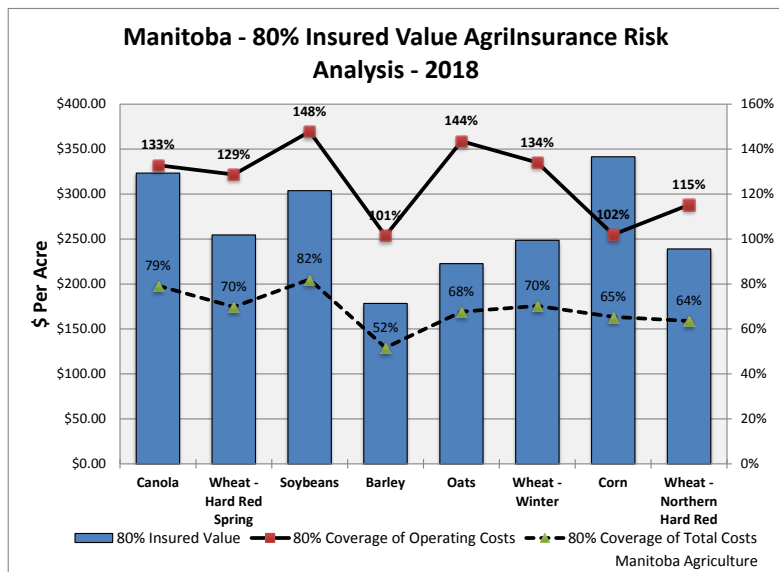
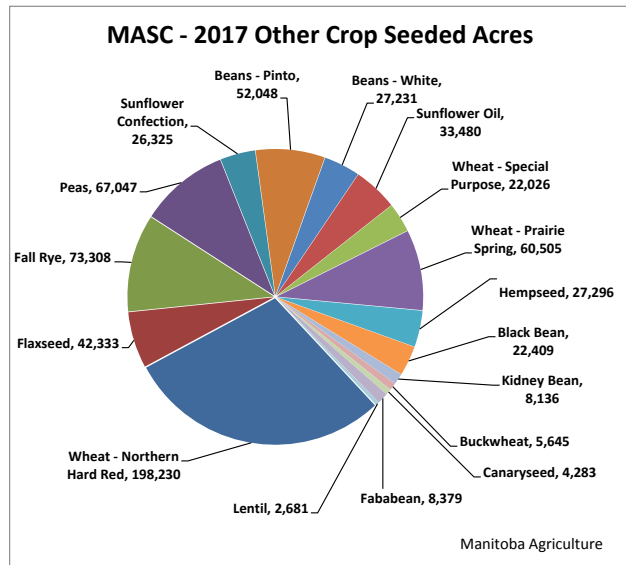
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Canola, Wheat - Hard Red Spring and Soybeans total 80% of the 2017 Seeded Acres and 76% of the 5 Year Average Seeded Acres

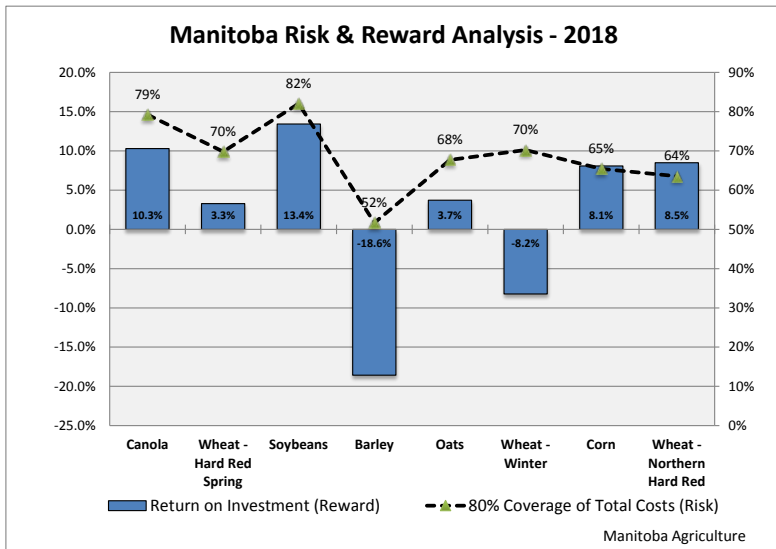


Other Crops are 7% of the 2017 Seeded Acres



Analysis of your Agrilnsurance Coverage of Operating and Total Costs is an important step in Risk Management Planning for your farm.

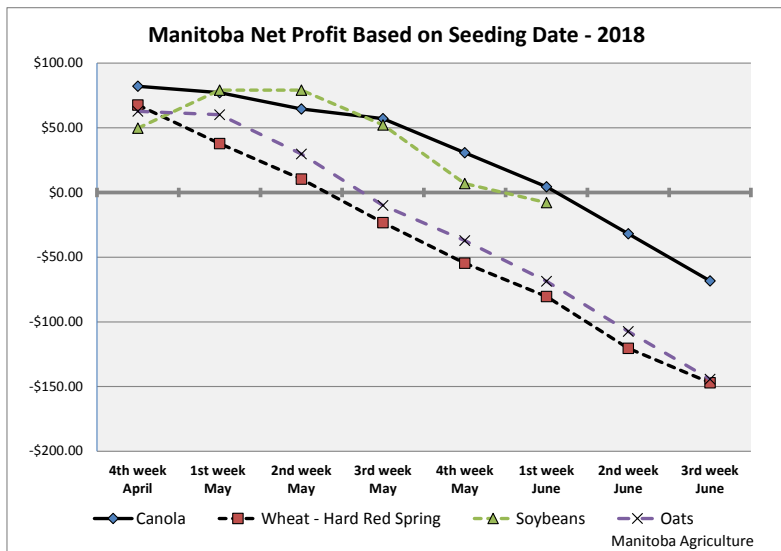
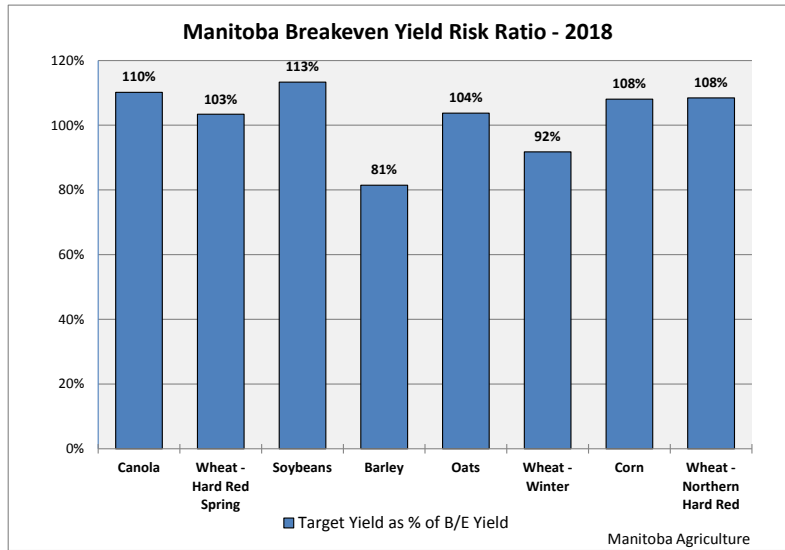




Analysis of ROI (Reward) and the associated AgrilInsurance Coverage of Total Costs (Risk) is useful in comparing the profitability and cost efficiency alongside the production cost risk when evaluating crops to include in your rotation and is an important step in Risk Management Planning for your farm.



Analysis of your Breakeven Yields compared to Target (or average) Yields gives an indication of how close to B/E (\$0 profit = 100%) each crop in your rotation is if faced with potential production or market price challenges and is an important step in Risk Management Planning.



Seeding Date can have a significant impact on crop yields and net profitability. Analysis of seeding dates will highlight potential windows of profitability to seed crops in your rotation and is an important step in Risk Management Planning.



Seed & Treatment

<u>Crop</u>	<u>Seeding Rate</u> <u>per Acre</u>	<u>Price</u> <u>per Unit</u>	<u>Cost</u> <u>per Acre</u>
Canola	5 lb	\$12.00 /lb	\$60.00
* Soybeans	1.43 units	\$66.50 /unit	\$95.10
Wheat - Hard Red Spring	2.0 bu	\$12.00 /bu	\$24.00
Wheat - Northern Hard Red	2.0 bu	\$11.00 /bu	\$22.00
Wheat - Special Purpose	2.0 bu	\$11.00 /bu	\$22.00
Wheat - Prairie Spring	2.0 bu	\$11.00 /bu	\$22.00
Wheat - Winter	2.0 bu	\$10.00 /bu	\$20.00
Barley	2.0 bu	\$7.50 /bu	\$15.00
Oats	2.5 bu	\$7.25 /bu	\$18.13
Corn	30,000 plants	\$0.0029 /plant	\$86.25
Peas	2.75 bu	\$11.00 /bu	\$30.25
Fall Rye	1.5 bu	\$7.00 /bu	\$10.50
Flaxseed	60 lb	\$0.38 /lb	\$22.80
Beans - Pinto	1.40 units	\$50.00 /unit	\$70.00
Beans - White	1.25 units	\$65.00 /unit	\$81.25
Sunflower Oil	20,000 plants	\$0.0019 /plant	\$38.00
Sunflower Confection	18,000 plants	\$0.00268 /plant	\$48.31

* 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>\$/tonne</u>	<u>Actual Nutrient</u> <u>\$/lb</u>	<u>Nitrogen</u> <u>Usage</u>	<u>Sulphur</u> <u>Usage</u>
Nitrogen: (urea) 46-0-0	\$440	\$0.434	50%	-
Nitrogen: (NH3) 82-0-0	\$623	\$0.345	50%	-
Nitrogen: (liquid) 28-0-0	\$283	\$0.458	0%	-
Phosphorus: 11-52-0	\$634	\$0.461	-	-
Potash: 0-0-60	\$415	\$0.314	-	-
Sulphur: 20.5-0-0-24	\$426	\$0.435	-	100%
MES S15: 13-33-0-15	\$642	\$0.551	-	0%

Amount of Actual Pounds of Elements Applied Per Acre

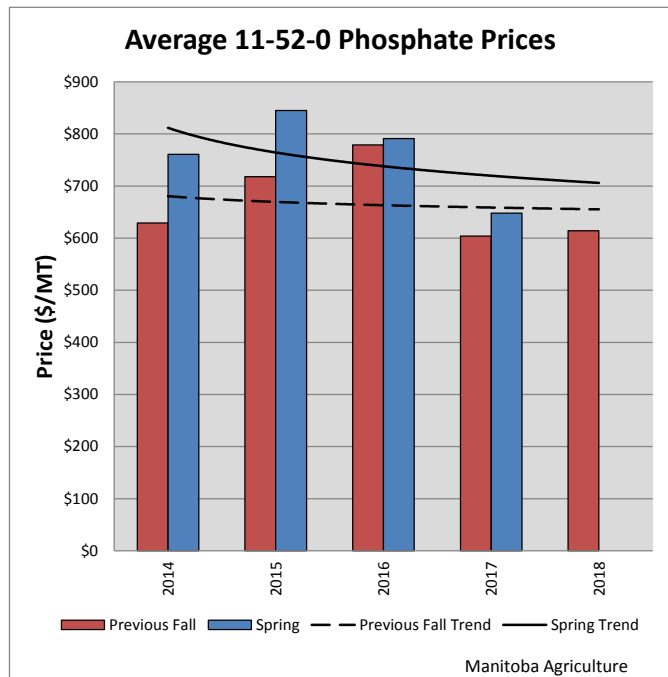
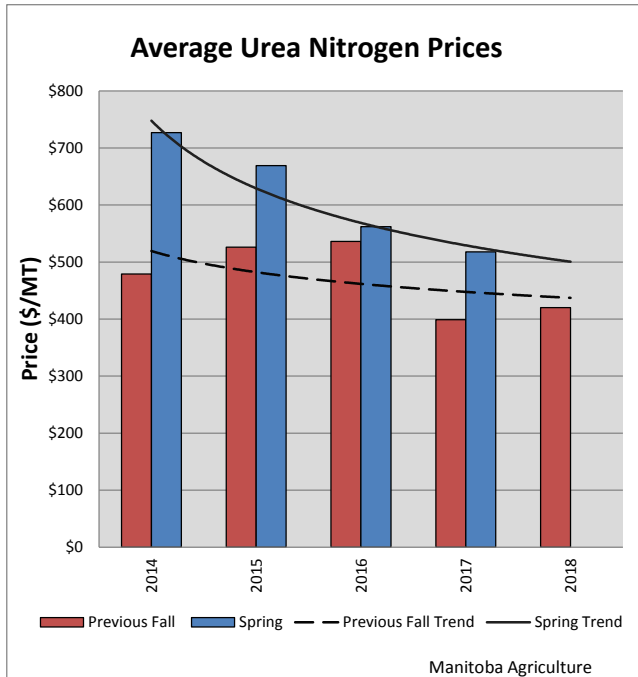
<u>Crop</u>	<u>Nitrogen</u>		<u>Phosphorus</u>		<u>Potash</u>		<u>Sulphur</u>		<u>Total</u> <u>\$/acre</u>
	<u>lbs</u>	<u>\$/acre</u>	<u>lbs</u>	<u>\$/acre</u>	<u>lbs</u>	<u>\$/acre</u>	<u>lbs</u>	<u>\$/acre</u>	
Canola	120	\$46.71	40	\$18.45	0	\$0.00	20	\$8.69	\$73.85
Soybeans	0	\$0.00	40	\$18.45	0	\$0.00	0	\$0.00	\$18.45
Wheat - Hard Red Spring	100	\$38.93	40	\$18.45	0	\$0.00	0	\$0.00	\$57.38
Wheat - Northern Hard Red	120	\$46.71	40	\$18.45	0	\$0.00	0	\$0.00	\$65.16
Wheat - Special Purpose	110	\$42.82	40	\$18.45	0	\$0.00	0	\$0.00	\$61.27
Wheat - Prairie Spring	110	\$42.82	40	\$18.45	0	\$0.00	0	\$0.00	\$61.27
Wheat - Winter	110	\$42.82	40	\$18.45	0	\$0.00	0	\$0.00	\$61.27
Barley	80	\$31.14	30	\$13.84	0	\$0.00	0	\$0.00	\$44.98
Oats	70	\$27.25	30	\$13.84	0	\$0.00	0	\$0.00	\$41.09
Corn	140	\$54.50	50	\$23.06	25	\$7.84	10	\$4.35	\$89.75
Peas	0	\$0.00	30	\$13.84	0	\$0.00	0	\$0.00	\$13.84
Fall Rye	65	\$25.30	30	\$13.84	0	\$0.00	0	\$0.00	\$39.14
Flaxseed	75	\$29.19	30	\$13.84	0	\$0.00	0	\$0.00	\$43.03
Beans - Pinto	70	\$27.25	30	\$13.84	0	\$0.00	0	\$0.00	\$41.09
Beans - White	80	\$31.14	30	\$13.84	0	\$0.00	0	\$0.00	\$44.98
Sunflower Oil	100	\$38.93	30	\$13.84	30	\$9.41	0	\$0.00	\$62.18
Sunflower Confection	100	\$38.93	30	\$13.84	30	\$9.41	0	\$0.00	\$62.18

* 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 \$1.00 to \$2.00/acre for custom sampling and analysis.

* For more information on fertilizer rates and recommendations - [Nitrogen Rate Calculator](#)

* Note: phosphorus amounts are allotted to each crop in the above examples. Sometimes this amount may not be practical or safe to apply with the seed of some crops like soybean or canola. Options for meeting these needs and phosphorus balance through the rotation are provided at:

[Phosphorus Balance Calculator](#)



Chemicals

Crop	Weed Control \$/acre	Disease Control \$/acre	Insect Control \$/acre	Total Cost \$/acre
Canola	\$13.13	\$21.88	\$0.00	\$35.01
Soybeans	\$8.67	\$0.00	\$0.00	\$8.67
Wheat - Hard Red Spring	\$26.21	\$17.25	\$0.00	\$43.46
Wheat - Northern Hard Red	\$26.21	\$17.25	\$0.00	\$43.46
Wheat - Special Purpose	\$26.21	\$17.25	\$0.00	\$43.46
Wheat - Prairie Spring	\$26.21	\$17.25	\$0.00	\$43.46
Wheat - Winter	\$13.83	\$17.25	\$0.00	\$31.08
Barley	\$24.88	\$17.25	\$0.00	\$42.13
Oats	\$9.50	\$10.13	\$0.00	\$19.63
Corn	\$22.50	\$0.00	\$0.00	\$22.50
Peas	\$16.00	\$14.38	\$0.00	\$30.38
Fall Rye	\$6.70	\$0.00	\$0.00	\$6.70
Flaxseed	\$18.25	\$14.38	\$0.00	\$32.63
Beans - Pinto	\$66.21	\$39.50	\$0.00	\$105.71
Beans - White	\$66.21	\$39.50	\$0.00	\$105.71
Sunflower Oil	\$24.75	\$0.00	\$0.00	\$24.75
Sunflower Confection	\$43.79	\$20.25	\$4.73	\$68.77

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 listed on Operating Cost Page) do not include custom application costs.

Operating Costs

Interest Rate on Operating	5.00%
Land Taxes (\$/acre)	\$15.00
Labour rate (\$/hour)	\$20.00
Machinery Operating (\$/acre)	\$10.00
Other Costs (\$/acre)	\$7.75
Fuel Cost (\$/litre)	\$0.85

<u>Grain Hauling</u>	
Distance to storage	6 miles roundtrip
Distance to market	45 miles roundtrip
Grain truck fuel use	5 Miles per Imp. Gallon
Grain truck size	475 bushels

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	General	
Canola	1.5	\$18.70	\$7.59	\$6.55	-	\$5.59	-	-	-	-	-	\$0.00	
Soybeans	1.5	\$17.67	\$17.47	\$7.56	-	\$5.59	-	-	-	-	-	\$0.00	
Wheat - Hard Red Spring	1.5	\$20.05	\$7.52	\$5.04	-	\$7.69	-	-	-	-	-	\$0.00	
Wheat - Northern Hard Red	1.5	\$21.13	\$9.94	\$5.04	-	\$9.51	-	-	-	-	-	\$0.00	
Wheat - Special Purpose	1.5	\$21.13	\$9.94	\$5.04	-	\$9.51	-	-	-	-	-	\$0.00	
Wheat - Prairie Spring	1.5	\$21.13	\$7.55	\$5.04	-	\$9.51	-	-	-	-	-	\$0.00	
Wheat - Winter	1.5	\$21.05	\$6.94	\$5.04	-	\$9.37	-	-	-	-	-	\$0.00	
Barley	1.5	\$21.09	\$7.62	\$5.04	-	\$10.20	-	-	-	-	-	\$0.00	
Oats	1.5	\$23.74	\$8.13	\$5.04	-	\$14.68	-	-	-	-	-	\$0.00	
Corn	1.5	\$25.81	\$26.74	\$5.04	\$35.00	\$19.71	-	-	-	-	-	\$0.00	
Peas	1.5	\$15.75	\$12.27	\$10.08	-	\$5.59	-	-	-	-	-	\$0.00	
Fall Rye	1.5	\$17.21	\$8.83	\$5.04	-	\$8.11	-	-	-	-	-	\$0.00	
Flaxseed	1.5	\$17.66	\$9.06	\$5.04	-	\$3.35	-	-	-	-	-	\$0.00	
Beans - Pinto	1.5	\$15.22	\$27.50	\$8.82	-	\$4.19	-	-	-	-	-	\$0.00	
Beans - White	1.5	\$15.15	\$23.15	\$8.82	-	\$4.08	-	-	-	-	-	\$0.00	
Sunflower Oil	1.5	\$20.08	\$17.02	\$5.04	\$10.00	\$10.06	-	\$8.50	-	-	-	\$8.50	
Sunflower Confection	1.5	\$20.08	\$28.78	\$5.04	\$10.00	\$10.06	-	\$17.00	-	-	-	\$17.00	

* 80% Insured Value - Based on MASC Risk Areas 2, 5, 6, & 12

** 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
Soybeans	20.78	2		2	1		2		1	2	3.90
Wheat - Hard Red Spring	23.59	1	1	1	1		4		1	2	5.37
Wheat - Northern Hard Red	24.86	1	1	1	1		4		1	2	6.64
Wheat - Special Purpose	24.86	1	1	1	1		4		1	2	6.64
Wheat - Prairie Spring	24.86	1	1	1	1		4		1	2	6.64
Wheat - Winter	24.76	1	1	1	1		4		1	2	6.54
Barley	24.81	2		1	1		3	1	1	2	7.13
Oats	27.93	2		1	1		3	1	1	2	10.25
Corn	30.36	1	1	1		1	3		1	2	13.76
Peas	18.53	1		2	1		2		1	2	3.90
Fall Rye	20.25	1		1	1		1	1	1	2	5.66
Flaxseed	20.77	2		2	1		3	1	1	2	2.34
Beans - Pinto	17.91	1		2		1	3	1	1	2	2.93
Beans - White	17.83	1		2		1	3	1	1	2	2.85
Sunflower Oil	23.63	1	1	1		1	3		1	2	7.03
Sunflower Confection	23.63	1	1	1		1	3		1	2	7.03

Guidelines: Crop Production Costs

Fixed Costs

Land value (\$/acre)	\$2,800		<u>Machinery Investment (\$/acre)</u>	
Land cost (\$/acre)	\$64.68		Conventional Crop Equipment	\$682.20
Conventional Crop acres	2,000		Special Crop Equipment	\$86.00
Special Crop acres	500			
Investment Rate	2.75%		<u>Machinery Depreciation cost (\$/acre)</u>	
Machinery Residual Value	33.0%		Conventional Crop Equipment	\$45.71
Machinery Useful Life (years)	10		Special Crop Equipment	\$5.76
Depreciation Rate	10.0%			
			<u>Machinery Investment cost (\$/acre)</u>	
<u>Grain Storage</u>	<u>Usage %</u>	<u>Cost</u>	Conventional Crop Equipment	\$18.76
Non-aeration bins	25%	\$1.95 /bu	Special Crop Equipment	\$2.37
Aeration bins	75%	\$2.45 /bu		
			<u>Machinery Lease cost (\$/acre)</u>	\$2.88

Conventional Crop Equipment Inventory and Current Values

	Market Value	Grain Usage %	Grain Allocation		Market Value	Grain Usage %	Grain Allocation
Power & Misc Equipment				Harvest Equipment			
4WD Tractor 475HP	\$300,000	100%	\$300,000	Combine	\$400,000	100%	\$400,000
MFWD Tractor 150HP	\$175,000	100%	\$175,000	Swather 35 ft	\$125,000	100%	\$125,000
2WD Tractor 60HP	\$40,000	75%	\$30,000	PTO Auger 13x70	\$15,000	100%	\$15,000
ATV Quad	\$10,000	75%	\$7,500	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			\$512,500	Total			\$544,000

	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	\$100,000	100%	\$100,000
Harrow 80ft	\$35,000	100%	\$35,000	Grain cart	\$40,000	100%	\$40,000
Air tank	\$75,000	100%	\$75,000	5th wheel flatdeck	\$10,000	100%	\$10,000
Air drill	\$125,000	100%	\$125,000		\$0	0%	\$0
SP sprayer	\$225,000	100%	\$225,000		\$0	0%	\$0
Rock picker	\$4,000	100%	\$4,000		\$0	0%	\$0
Water tanks	\$10,000	100%	\$10,000		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
Total	\$499,000		\$499,000	Total			\$150,000

Owned Equipment TOTAL \$1,705,500

Special Crop Equipment Inventory and Current Values

	Market Value	Grain Usage %	Grain Allocation		Market Value	Grain Usage %	Grain Allocation
Seeding, Tillage, Spraying				Harvest Equipment			
Planter	\$125,000	100%	\$125,000	Harvest Header	\$90,000	100%	\$90,000
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
Total			\$125,000	Total			\$90,000

Special Equipment TOTAL \$215,000

Leased Equipment Inventory

	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
Total	\$0		\$0	Total			\$7,200

Leased Equipment TOTAL \$7,200 \$2.88 per acre

* 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: (2017 rates)

80% Insured Value 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 and sunflowers. 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% for six months.

Land Investment Cost: Land value are based on approximate average land values. Budget assumed 2.75% return net after tax investment cash value (84%).

Depreciation: Assumed 10% on machinery, 33% salvage value.

Investment Cost: Assumed 2.75% opportunity cost on machinery.

Estimated Farmgate Values:

Target crop prices are based on deferred delivery contract prices for fall 2018.

Target yields are estimated based on 5 year MASC average yields plus 5%.

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 2.75% 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:	$\frac{\$107.25 + \$10.725}{2} \times 2.75\%$		\$1.62	
	Sub-Total :		\$6.45	x 25% = \$1.61

Aeration Bins (75%)

Depreciation:	$\frac{\$134.75 - \$13.475}{20 \text{ years}}$	=	\$6.06	
Investment:	$\frac{\$134.75 + \$13.475}{2} \times 2.75\%$		\$2.04	
	Sub-Total :		\$8.10	x 75% = \$6.08
			Total	\$7.69

Profitability, Breakeven & Risk Analysis Formulas:

Gross Revenue = Price per unit x Yield per acre (eg. wheat: \$6.85/bu x 55bu/ac = \$376.75/ac)

Net Profit = Gross Revenue - Total Cost (eg. wheat: \$376.75 gross revenue - \$364.74 total cost = \$12.01 per acre)

Operating Expense Ratio = (Operating Cost / Gross Revenue) x 100 (eg. wheat: \$197.91 operating expense / \$364.74 total cost = 52.5%)

\$ Revenue Per \$ Cost = Gross Revenue / Total Cost (eg. wheat: \$376.75 gross revenue / \$364.74 total cost = \$1.03)

Return on Investment (ROI) = (Gross Revenue - Total Cost) / Total Cost (eg. wheat: (\$376.75 gross revenue - \$364.74 total cost) / \$364.74 total cost = 3.3%)

Estimated Return on Asset (ROA) = (Margin Over Operating - Labour - Machinery Depreciation) / (Land Investment Cost + Machinery Investment Cost)

(eg. wheat: (\$178.84 margin - \$30.00 labour - \$45.71 dep.) / (\$2800 land cost + \$682.20 conv. machinery + \$86.00 special crop. mach.) = 2.89%)

Breakeven Price = Cost / Target Yield (eg. wheat cost \$364.74 / 55 bu = \$6.63 per bu)

Breakeven Yield = Cost / Target Price per Unit (eg. wheat cost \$364.74 / \$6.85 bu = 53.2 bu)

Breakeven Yield Risk Ratio = (Target Yield per Acre / Breakeven Yield) x 100 (eg. wheat yield 55 bu/ac / 53.2 bu BE = 103 %)

Agrilinsurance Risk Ratio = (Agrilinsurance Coverage / Operating Cost) x 100 (eg. wheat coverage \$254.66/ac / \$197.91 operating expense = 129 %)

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

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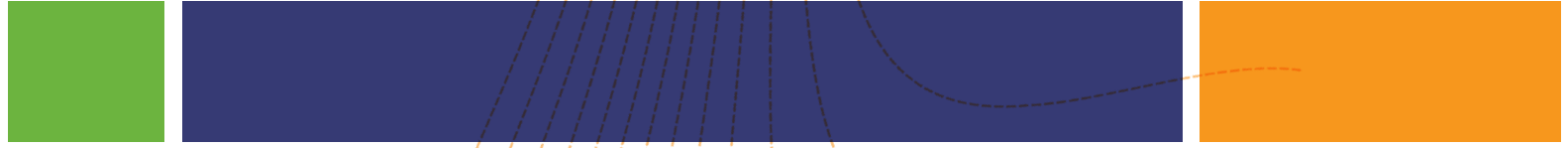
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