

Manitoba Agriculture, Food and Rural Development
GROWING Opportunities

Organic Production Cost Planning - 2016

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Disclaimer #1:

- All of the numbers and values presented here, will be wrong for your farm.
 - Focus on the concepts, not the numbers.
- My Goal:** Calculate your own numbers that you can use in the management and operation of your farm business.

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Disclaimer #2:

- About me - I calculate stuff (non-linear logic)
- If you do not like numbers, you will not appreciate or enjoy this presentation.
- Send me an email and I'll give you a PDF of the presentation.

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Cost of Production Planning

- The corner stone of your Production, Management, or Marketing plan should start with calculating **Cost of Production (COP)**.
- Knowing **your** COP (per bushel) is the first step in deciding what is a profitable or breakeven price.
- <http://www.gov.mb.ca/agriculture/business-and-economics/financial-management/cost-of-production.html>

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MAFRD COP Budgets

- COP's have costs divided into three main categories:
 - Operating Costs
 - Fixed Costs
 - Labour
- COP's have four categories of analysis:
 - Gross Revenue
 - Marginal Returns
 - Breakeven Price and Yield
 - Risk and Sensitivity (What if...)

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Organic Input Costs - Seed


Crop	Seeding Rate		Price		Cost	
	per Acre	per Unit	per Unit	per Acre		
Brown Flaxseed	60 lb		\$0.77 /lb		\$46.07	
Green Peas	2.50 bu		\$18.38 /bu		\$45.95	
HRS Wheat	2.16 bu		\$23.36 /bu		\$50.46	
Oats	3.00 bu		\$10.00 /bu		\$30.00	
Hemp Oil	25 lb		\$2.25 /lb		\$56.25	
Spring Spelt	110 lb		\$0.35 /lb		\$38.50	
Soybeans	84 lb		\$0.90 /lb		\$75.60	
Feed Barley	2.5 bu		\$12.41 /bu		\$31.03	
Fall Rye	2 bu		\$14.00 /bu		\$28.00	
Winter Wheat	2.0 bu		\$23.00 /bu		\$46.00	
Buckwheat	65 lb		\$0.55 /lb		\$35.75	
Sunflowers Oil	4 lb		\$4.00 /lb		\$16.00	
Green Manure Crop						
Sweet Clover	7 lb		\$2.25 /lb		\$15.75	
Forage Oat Pea Mix	170 lb		\$0.29 /lb		\$49.30	(50 lb oats, 70 lb peas)
Red Clover	10 lb		\$2.50 /lb		\$25.00	
Forage Peas	2 bu		\$18.50 /bu		\$37.00	
Alfalfa	3.75 lb		\$3.00 /lb		\$11.25	

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Organic Input Costs - Fertility

Green manure			
Plowdown rotation	1	year	every 4 years
Green Manure Crop	Usage of each crop type		Cost/Acre
Sweet Clover	50%		\$223.29
Forage Oat Pea Mix	0%		\$257.76
Red Clover	50%		\$232.80
Forage Peas	0%		\$245.13
Alfalfa	0%		\$218.67
	100%		
	(Total must = 100%)		
Total Annual Green Manure Cost	\$76.01 /acre		

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Organic Input Costs - Fertility


Compost
Compost application 1 year every 10 years

Compost cost **\$10.50/ton**
Compost application cost **\$10.00/cubic yard**

Compost application rate (tons) **4.50/acre**
Compost bulk density (tons) **0.60/cubic yard**

Compost cost **\$47.25/acre**
Compost application **\$75.00/acre**
Total Compost Cost **\$122.25/acre**


Total Annual Compost Cost **\$12.23/acre**

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Organic Input Costs - Operating


Interest Rate on Operating	5.50%
Land Taxes (\$/acre)	\$12.00
Labour rate (\$/hour)	\$20.00
Machinery Operating (\$/acre)	\$10.00
Other Costs (\$/acre)	\$7.75
Fuel Cost (\$/litre)	\$0.85

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Organic Input Costs – Operating (cont.)

Crop	Labour (hrs/acre)	Fuel	Crop Insurance	Drying Costs	Storage \$/acre
Brown Flaxseed	3.2	\$17.51	\$27.00	-	\$2.03
Green Peas	3.2	\$17.55	\$19.39	-	\$2.61
HRS Wheat	3.2	\$17.70	\$21.70	-	\$4.58
Oats	3.2	\$18.09	\$19.88	-	\$9.80
Hemp Oil	3.2	\$17.46	\$33.79	\$20.00	\$1.34
Spring Spelt	3.2	\$17.55	\$0.00	-	\$2.59
Soybeans	3.2	\$17.53	\$23.34	-	\$2.35
Feed Barley	3.2	\$17.77	\$11.56	-	\$5.49
Fall Rye	3.2	\$17.65	\$15.96	-	\$3.92
Winter Wheat	3.2	\$17.80	\$23.30	-	\$5.88
Buckwheat	3.2	\$17.49	\$30.59	-	\$1.83
Sunflowers Oil	3.2	\$17.76	\$18.67	\$10.00	\$5.35
Green Manure Crop					
Sweet Clover	3.2	\$14.66	\$0.00	-	
Forage Oat Pea Mix	3.2	\$14.66	\$0.00	-	
Red Clover	3.2	\$14.66	\$0.00	-	
Forage Peas	3.2	\$14.66	\$0.00	-	
Alfalfa	3.2	\$14.66	\$0.00	-	


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Organic Input Costs – Operating (cont.)

Fuel Usage Calculation


Crop	Total L/acre	Number of Field Operations & Litres Fuel Per Acre Per Operation										Trucks L/acre
		cultivator or tandem disk	high speed disk	narrow or roller	air drill	row planter	misc.	swather	combine	3/4 ton pickup	grain hauling	
Brown Flaxseed	20.59	2.25	3.5	0.75	2.5	1.3	0	1.13	5.54	3	0.17	
Green Peas	20.70	3	2	1	1	1	1	3	0.28			
HRS Wheat	20.76	3	2	1	1	1	1	3	0.34			
Oats	21.11	3	2	1	1	1	1	3	0.69			
Hemp Oil	20.53	3	2	1	1	1	1	3	0.11			
Spring Spelt	20.65	3	2	1	1	1	1	3	0.23			
Soybeans	20.66	3	2	1	1	1	1	3	0.24			
Feed Barley	20.90	3	2	1	1	1	1	3	0.48			
Fall Rye	20.73	3	2	1	1	1	1	3	0.31			
Winter Wheat	20.82	3	2	1	1	1	1	3	0.40			
Buckwheat	20.58	3	2	1	1	1	1	3	0.16			
Sunflowers Oil	20.99	3	2	1	1	1	1	3	0.47			
Green Manure Crop												
Sweet Clover	17.25	3	1	2	1	1	1	3				
Forage Oat Pea Mix	17.25	3	1	2	1	1	1	3				
Red Clover	17.25	3	1	2	1	1	1	3				
Forage Peas	17.25	3	1	2	1	1	1	3				
Alfalfa	17.25	3	1	2	1	1	1	3				

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Fixed Costs

- ✓ To determine a farm's true profitability, fixed costs must be accounted for in some way.
- ✓ Often overlooked because margins are traditionally very tight in grain farming.
- ✓ What should be included when accounting for fixed costs?


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Organic Input Costs – Fixed

Land value (\$/acre)	\$2,150
Total Crop acres	600
Depreciation Rate	10.0%
Investment Rate	2.50%
Land cost (\$/acre)	\$53.75
Machinery Investment (\$/acre)	\$221.90
Machinery Depreciation cost (\$/acre)	\$22.19
Machinery Investment cost (\$/acre)	\$5.55
Machinery Lease cost (\$/acre)	\$0.00
Total (\$/acre)	\$27.74

<u>Grain Storage</u>	<u>Usage %</u>	<u>Cost</u>
Non-aeration bins	25%	\$1.85/bu
Aeration bins	75%	\$2.35/bu


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Organic Input Costs – Fixed (cont.)

	<u>Market Value</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>
Power & Misc Equipment			
4WD Tractor	\$33,750	100%	\$33,750
2WD Tractor	\$7,500	75%	\$5,625
ATV Quad	\$750	75%	\$563
	\$0	0%	\$0
	\$0	0%	\$0
Total			\$39,938

	<u>Market Value</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>
Seeding, Tillage, Spraying			
Cultivator	\$7,500	100%	\$7,500
Harrow	\$5,250	100%	\$5,250
Air tank	\$7,500	100%	\$7,500
Air drill	\$15,000	100%	\$15,000
Rock picker	\$600	100%	\$600
tandem disk	\$7,500	100%	\$7,500
	\$0	0%	\$0
Total	\$43,350		\$43,350

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Organic Input Costs – Fixed (cont.)

	<u>Market Value</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>
Harvest Equipment			
Combine	\$30,000	100%	\$30,000
Swather	\$11,250	100%	\$11,250
PTO Auger	\$500	100%	\$500
Auger	\$600	100%	\$600
	\$0	0%	\$0
Total			\$42,350

	<u>Market Value</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>
Trucks & Trailers			
	\$0	0%	\$0
3 ton grain truck	\$6,000	100%	\$6,000
5th wheel flatdeck	\$1,500	100%	\$1,500
	\$0	0%	\$0
	\$0	0%	\$0
	\$0	0%	\$0
	\$0	0%	\$0
Total			\$7,500

Owned Equipment TOTAL	\$133,138	\$221.90 per acre
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What Should I Use for Fixed Costs?

1) Land

- ✓ Use total land payments (interest and principal) + total land rent averaged over entire farm.
 - Eg. 1000 acre farm
 - Renting 400 acres at \$75/acre = Total Rent Cost \$30,000/year.
 - 200 acres owned with annual payment of \$85/acre (P&I) = Total Mortgage Cost \$17,000/year
 - 400 acres owned outright, no mortgage
 - \$30,000 + \$17,000 = \$47,000/1000 acres = \$47/acre


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What Should I Use for Fixed Costs?

2) Equipment


- ✓ Use annual equipment payments averaged over size of the farm.
 - Eg. 1000 acre farm
 - \$15,000 annual payment on combine
 - \$10,000 annual payment on air drill.
 - \$15,000 + \$10,000 = \$25,000/1000 acres = \$25/acre
- ✓ Should add in depreciation, in order to reflect some decrease in value of machinery.
 - 5 to 10% of machinery value.

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Machinery Investment – What is Acceptable?


- Short answer – whatever the farm can afford.
- Machinery Investment generally ranges from 50% to 200% of average gross revenue per acre.
 - ✓ Use equipment fair market value and figure out your \$/acre.
 - ✓ Compare that number to average gross revenue per acre.

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Machinery Investment – What is Acceptable?

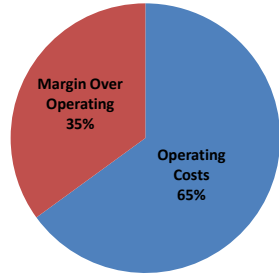
- ✓ Generally, lower investment costs should be accompanied by higher repair costs in budgeting process.
- ✓ Machinery Investment range for most farms is 50% to 200% with risks and rewards at both ends.
 - ❑ Farms at 200% generally mitigate production risk, but face depreciation risk. High Depreciation in poor years is tough on profitability.
 - ❑ Farms at 50% likely face more production risk and higher repair/maintenance costs, but lessen risk in poor years as equipment costs are minimal.
- ✓ Must be comfortable with your position and know the risks and rewards.


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Fixed Cost Management - Conventional

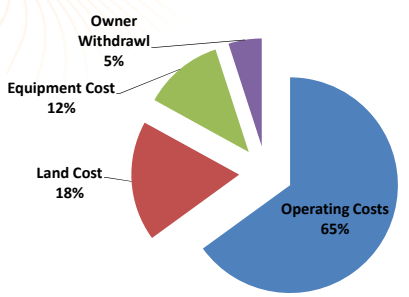
- **Gross Revenue**
= Price x Yield Per Acre
- **Margin Over Operating Cost** =
Gross Revenue – Operating Costs




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Fixed Cost Management - Conventional

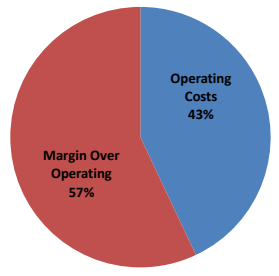



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Fixed Cost Management - Organic

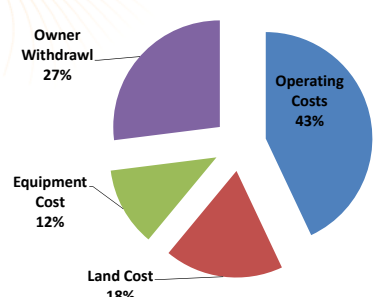
- **Gross Revenue**
= Price x Yield Per Acre
- **Margin Over Operating Cost** =
Gross Revenue – Operating Costs




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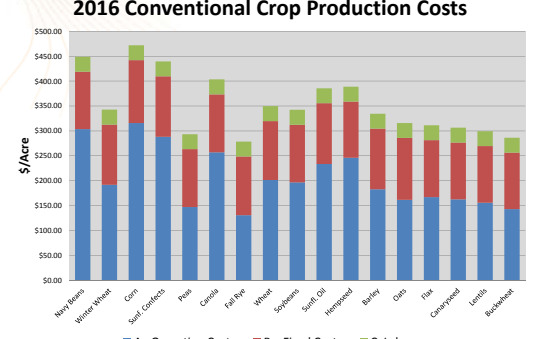
Fixed Cost Management - Organic

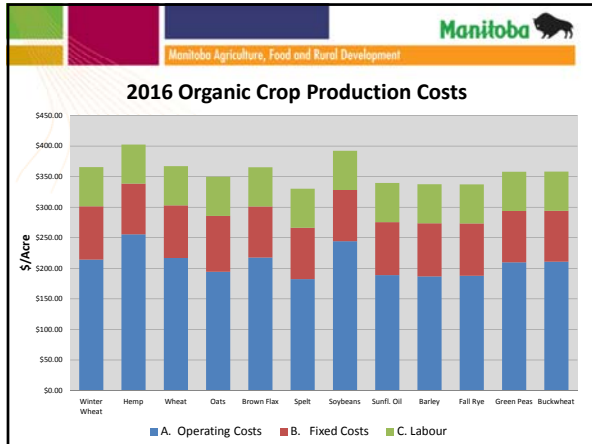


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2016 Conventional Crop Production Costs





Organic AgrilInsurance Risk Analysis – 2016

AgrilInsurance Risk Analysis - RA#2 'B' Soil				
	Operating Costs	80% Insured Value	Coverage of Operating Costs	Coverage of Total Costs
Winter Wheat	\$214.15	\$177.00	82.7%	48.4%
Hemp	\$255.66	\$244.80	95.8%	60.8%
Wheat	\$216.99	\$170.78	78.7%	46.5%
Oats	\$194.50	\$167.27	86.0%	47.8%
Brown Flax	\$217.73	\$195.52	89.8%	53.5%
Spelt	\$182.25	\$0.00	0.0%	0.0%
Soybeans	\$244.34	\$145.01	59.3%	37.0%
Sunfl. Oil	\$188.80	\$151.20	80.1%	44.5%
Barley	\$186.68	\$113.23	60.7%	33.5%
Fall Rye	\$187.96	\$140.16	74.6%	41.5%
Green Peas	\$209.83	\$100.16	47.7%	28.0%
Buckwheat	\$210.80	\$141.46	67.1%	39.5%

Conv. AgrilInsurance Risk Analysis – 2016

AgrilInsurance Risk Analysis - RA#2 'B' Soil				
	Operating Costs	80% Insured Value	Coverage of Operating Costs	Coverage of Total Costs
Navy Beans	\$303.66	\$320.10	105.4%	71.3%
Winter Wheat	\$191.71	\$233.05	121.6%	68.0%
Corn	\$315.88	\$209.09	66.2%	44.3%
Sunf. Confects	\$288.01	\$325.30	112.9%	74.0%
Peas	\$147.06	\$199.32	135.5%	67.9%
Canola	\$256.98	\$259.98	101.2%	64.5%
Fall Rye	\$130.80	\$221.45	169.3%	79.5%
Wheat	\$201.36	\$225.36	111.9%	64.4%
Soybeans	\$196.66	\$217.51	110.6%	63.5%
Sunfl. Oil	\$233.37	\$253.01	108.4%	65.6%
Hempseed	\$246.01	\$264.38	107.5%	68.0%
Barley	\$182.85	\$185.75	101.6%	55.5%
Oats	\$161.53	\$242.09	149.9%	76.7%
Flax	\$166.87	\$207.28	124.2%	66.6%

Organic – Projected Revenue 2016

	Price (\$/unit)	Yield (units/acre)	Gross Revenue
Winter Wheat	\$19.00	45.0	\$855.00
Hemp	\$1.55	450.0	\$697.50
Wheat	\$18.86	35.0	\$660.10
Oats	\$7.00	75.0	\$525.00
Brown Flax	\$34.00	15.5	\$527.00
Spelt	\$23.00	19.8	\$455.40
Soybeans	\$28.19	18.0	\$507.42
Sunfl. Oil	\$0.50	900.0	\$450.00
Barley	\$8.41	42.0	\$353.22
Fall Rye	\$10.00	30.0	\$300.00
Green Peas	\$15.38	20.0	\$307.60
Buckwheat	\$18.00	14.0	\$252.00

Organic – Profitability Ranking 2016

	Gross Revenue	Margin Over Operating Costs	Margin Over Op & Fixed Costs	Margin Over Total Costs
Winter Wheat	\$855.00	\$640.85	\$553.48	\$489.48
Hemp	\$697.50	\$441.84	\$359.02	\$295.02
Wheat	\$660.10	\$443.11	\$357.05	\$293.05
Oats	\$525.00	\$330.50	\$239.21	\$175.21
Brown Flax	\$527.00	\$309.27	\$225.76	\$161.76
Spelt	\$455.40	\$273.15	\$189.07	\$125.07
Soybeans	\$507.42	\$263.08	\$179.24	\$115.24
Sunfl. Oil	\$450.00	\$261.20	\$174.37	\$110.37
Barley	\$353.22	\$166.54	\$79.56	\$15.56
Fall Rye	\$300.00	\$112.04	\$26.63	(\$37.37)
Green Peas	\$307.60	\$97.77	\$13.66	(\$50.34)
Buckwheat	\$252.00	\$41.20	(\$42.11)	(\$106.11)

Conventional – Projected Revenue 2016


	Price (\$/unit)	Yield (units/acre)	Gross Revenue
Navy Beans	\$0.28	1850	\$518.00
Winter Wheat	\$5.25	75	\$393.75
Corn	\$4.50	115	\$517.50
Sunf. Confects	\$0.27	1750	\$472.50
Peas	\$8.00	40	\$320.00
Canola	\$10.50	40	\$420.00
Fall Rye	\$5.75	50	\$287.50
Wheat	\$6.50	55	\$357.50
Soybeans	\$10.00	35	\$350.00
Sunfl. Oil	\$0.21	1850	\$388.50
Hempseed	\$0.68	575	\$391.00
Barley	\$4.00	80	\$320.00
Oats	\$3.00	100	\$300.00
Flax	\$11.75	25	\$293.75

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Conventional – Profitability Ranking 2016


	Gross Revenue	Margin Over Operating Costs	Margin Over Op & Fixed Costs	Margin Over Total Costs
Navy Beans	\$518.00	\$214.34	\$99.18	\$69.18
Winter Wheat	\$393.75	\$202.04	\$81.10	\$51.10
Corn	\$517.50	\$201.62	\$75.46	\$45.46
Sunf. Confects	\$472.50	\$184.49	\$62.96	\$32.96
Peas	\$320.00	\$172.94	\$56.58	\$26.58
Canola	\$420.00	\$163.02	\$46.66	\$16.66
Fall Rye	\$287.50	\$156.70	\$39.03	\$9.03
Wheat	\$357.50	\$156.14	\$37.82	\$7.82
Soybeans	\$350.00	\$153.34	\$37.63	\$7.63
Sunfl. Oil	\$388.50	\$155.13	\$33.01	\$3.01
Hempseed	\$391.00	\$144.99	\$32.15	\$2.15
Barley	\$320.00	\$137.15	\$15.55	(\$14.45)
Oats	\$300.00	\$138.47	\$14.26	(\$15.74)
Flax	\$293.75	\$126.88	\$12.48	(\$17.52)

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Organic - Breakeven Yield (units/ac)


	Price (\$/unit)	Operating Costs	Total Costs	B/E % of Target (or Avg.) Yield
Winter Wheat	\$19.00	11.3	19.2	42.8%
Hemp	\$1.55	164.9	259.7	57.7%
Wheat	\$18.86	11.5	19.5	55.6%
Oats	\$7.00	27.8	50.0	66.6%
Brown Flax	\$34.00	6.4	10.7	69.3%
Spelt	\$23.00	7.9	14.4	72.5%
Soybeans	\$28.19	8.7	13.9	77.3%
Sunfl. Oil	\$0.50	377.6	679.3	75.5%
Barley	\$8.41	22.2	40.1	95.6%
Fall Rye	\$10.00	18.8	33.7	112.5%
Green Peas	\$15.38	13.6	23.3	116.4%
Buckwheat	\$18.00	11.7	19.9	142.1%

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Organic - Breakeven Prices (\$/ unit)


	Yield (units/acre)	Operating Costs	Total Costs
Winter Wheat	45.0	\$4.76	\$8.12
Hemp	450.0	\$0.57	\$0.89
Wheat	35.0	\$6.20	\$10.49
Oats	75.0	\$2.59	\$4.66
Brown Flax	15.5	\$14.05	\$23.56
Spelt	19.8	\$9.20	\$16.68
Soybeans	18.0	\$13.57	\$21.79
Sunfl. Oil	900.0	\$0.21	\$0.38
Barley	42.0	\$4.44	\$8.04
Fall Rye	30.0	\$6.27	\$11.25
Green Peas	20.0	\$10.49	\$17.90
Buckwheat	14.0	\$15.06	\$25.58

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Conventional - Breakeven Yield (units/ac)

	Price (\$/unit)	Operating Costs	Total Costs	B/E % of Target (or Avg.) Yield
Navy Beans	\$0.28	1085	1603	86.6%
Winter Wheat	\$5.25	37	65	87.0%
Corn	\$4.50	70	105	91.2%
Sunf. Confects	\$0.27	1067	1628	93.0%
Peas	\$8.00	18	37	91.7%
Canola	\$10.50	24	38	96.0%
Fall Rye	\$5.75	23	48	96.9%
Wheat	\$6.50	31	54	97.8%
Soybeans	\$10.00	20	34	97.8%
Sunfl. Oil	\$0.21	1111	1836	99.2%
Hempseed	\$0.68	362	572	99.4%
Barley	\$4.00	46	84	104.5%
Oats	\$3.00	54	105	105.2%
Flax	\$11.75	14	26	106.0%

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Conventional - Breakeven Prices (\$/ unit)

	Yield (units/acre)	Operating Costs	Total Costs
Navy Beans	1850	\$0.16	\$0.24
Winter Wheat	75	\$2.56	\$4.57
Corn	115	\$2.75	\$4.10
Sunf. Confects	1750	\$0.16	\$0.25
Peas	40	\$3.68	\$7.34
Canola	40	\$6.42	\$10.08
Fall Rye	50	\$2.62	\$5.57
Wheat	55	\$3.66	\$6.36
Soybeans	35	\$5.62	\$9.78
Sunfl. Oil	1850	\$0.13	\$0.21
Hempseed	575	\$0.43	\$0.68
Barley	80	\$2.29	\$4.18
Oats	100	\$1.62	\$3.16
Flax	25	\$6.67	\$12.45

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HRS Wheat – Operating Costs


A. Operating Costs	HRS Wheat	
	Organic	Conv.
Seed & Treatment	\$50.46	\$22.00
Fertility	\$76.01	\$61.23
Compost	\$12.23	\$0.00
Herbicide	\$0.00	\$26.21
Fungicide	\$0.00	\$21.31
Insecticide	\$0.00	\$0.00
Fuel	\$17.70	\$20.05
Machinery Operating	\$10.00	\$10.00
Machinery Lease	\$0.00	\$3.60
Rental and Custom	\$0.00	\$0.00
Crop Insurance	\$21.70	\$11.82
Other Costs	\$7.75	\$7.75
Certification Cost	\$3.33	\$0.00
Land Taxes	\$12.00	\$12.00
Drying Costs	\$0.00	\$0.00
Interest on Operating	\$5.81	\$5.39
Total Operating	\$216.99	\$201.36

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HRS Wheat – Fixed Costs


	HRS Wheat	
	Organic	Conv.
B. Fixed Costs		
Land Investment Costs	\$53.75	\$53.75
Machinery Depreciation	\$22.19	\$45.91
Machinery Investment	\$5.55	\$11.48
<u>Storage Costs</u>	<u>\$4.58</u>	<u>\$7.19</u>
Total Fixed	\$86.06	\$118.32
Total Operating & Fixed	\$303.05	\$319.68
C. Labour	\$64.00	\$30.00
Total Costs	\$367.05	\$349.68


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HRS Wheat – Profitability

	HRS Wheat	
	Organic	Conv.
Estimated Farmgate		
Price \$ per unit	\$18.86	\$6.50
Yield per acre (bu or lb.)	35.0	55
Unit type	bu	bu
Gross Revenue / acre	\$660.10	\$357.50
Marginal Returns		
Over Operating Costs	\$443.11	\$156.14
Over Operating & Fixed Costs	\$357.05	\$37.82
Over Total Costs (Net Profit)	\$293.05	\$7.82
Operating Expense Ratio	32.9%	56.3%




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HRS Wheat – Breakeven Analysis


	HRS Wheat	
	Organic	Conv.
Breakeven Price Per Unit		
Operating Costs	\$6.20	\$3.66
Operating & Fixed Costs	\$8.66	\$5.81
Total Costs	\$10.49	\$6.36
Breakeven Yield (Bu or lb.)		
Operating Costs	11.5	31.0
Operating & Fixed Costs	16.1	49.2
Total Costs	19.5	53.8

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Oats – Operating Costs


	Oats	
	Organic	Conv.
A. Operating Costs		
Seed & Treatment	\$30.00	\$18.13
Fertility	\$76.01	\$48.57
Compost	\$12.23	\$0.00
Herbicide	\$0.00	\$9.50
Fungicide	\$0.00	\$10.13
Insecticide	\$0.00	\$0.00
Fuel	\$18.09	\$23.33
Machinery Operating	\$10.00	\$10.00
Machinery Lease	\$0.00	\$3.60
Rental and Custom	\$0.00	\$0.00
Crop Insurance	\$19.88	\$14.21
Other Costs	\$7.75	\$7.75
Certification Cost	\$3.33	\$0.00
Land Taxes	\$12.00	\$12.00
Drying Costs	-	\$0.00
Interest on Operating	\$5.21	\$4.32
Total Operating	\$194.50	\$161.53

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Oats – Fixed Costs


	Oats	
	Organic	Conv.
B. Fixed Costs		
Land Investment Costs	\$53.75	\$53.75
Machinery Depreciation	\$22.19	\$45.91
Machinery Investment	\$5.55	\$11.48
<u>Storage Costs</u>	<u>\$9.80</u>	<u>\$13.07</u>
Total Fixed	\$91.29	\$124.20
Total Operating & Fixed	\$285.79	\$285.74
C. Labour	\$64.00	\$30.00
Total Costs	\$349.79	\$315.74


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Oats – Profitability

	Oats	
	Organic	Conv.
Estimated Farmgate		
Price \$ per unit	\$7.00	\$3.00
Yield per acre (bu or lb.)	75.0	100
Unit type	bu	bu
Gross Revenue / acre	\$525.00	\$300.00
Marginal Returns		
Over Operating Costs	\$330.50	\$138.47
Over Operating & Fixed Costs	\$239.21	\$14.26
Over Total Costs (Net Profit)	\$175.21	(\$15.74)
Operating Expense Ratio	37.0%	53.8%




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Oats – Breakeven Analysis


	<u>Oats</u>	
	<u>Organic</u>	<u>Conv.</u>
Breakeven Price Per Unit		
Operating Costs	\$2.59	\$1.62
Operating & Fixed Costs	\$3.81	\$2.86
Total Costs	\$4.66	\$3.16
Breakeven Yield (Bu or lb.)		
Operating Costs	27.8	53.8
Operating & Fixed Costs	40.8	95.2
Total Costs	50.0	105.2

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Soybeans – Operating Costs


	<u>Soybeans</u>	
	<u>Organic</u>	<u>Conv.</u>
A. Operating Costs		
Seed & Treatment	\$75.60	\$94.38
Fertility	\$76.01	\$11.35
Compost	\$12.23	\$0.00
Herbicide	\$0.00	\$14.67
Fungicide	\$0.00	\$0.00
Insecticide	\$0.00	\$0.00
Fuel	\$17.53	\$15.34
Machinery Operating	\$10.00	\$10.00
Machinery Lease	\$0.00	\$3.60
Rental and Custom	\$0.00	\$0.00
Crop Insurance	\$23.34	\$22.31
Other Costs	\$7.75	\$7.75
Certification Cost	\$3.33	\$0.00
Land Taxes	\$12.00	\$12.00
Drying Costs	-	\$0.00
<u>Interest on Operating</u>	<u>\$6.54</u>	<u>\$5.20</u>
Total Operating	\$244.34	\$196.66

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Soybeans – Fixed Costs


	<u>Soybeans</u>	
	<u>Organic</u>	<u>Conv.</u>
B. Fixed Costs		
Land Investment Costs	\$53.75	\$53.75
Machinery Depreciation	\$22.19	\$45.91
Machinery Investment	\$5.55	\$11.48
<u>Storage Costs</u>	<u>\$2.35</u>	<u>\$4.58</u>
Total Fixed	\$83.84	\$115.71
Total Operating & Fixed	\$328.18	\$312.37
C. Labour	\$64.00	\$30.00
Total Costs	\$392.18	\$342.37


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Soybeans – Profitability

	<u>Soybeans</u>	
	<u>Organic</u>	<u>Conv.</u>
Estimated Farmgate		
Price \$ per unit	\$28.19	\$10.00
Yield per acre (bu or lb.)	18.0	35
Unit type	bu	bu
Gross Revenue / acre	\$507.42	\$350.00
Marginal Returns		
Over Operating Costs	\$263.08	\$153.34
Over Operating & Fixed Costs	\$179.24	\$37.63
Over Total Costs (Net Profit)	\$115.24	\$7.63
Operating Expense Ratio	48.2%	56.2%




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Soybeans – Breakeven Analysis


	<u>Soybeans</u>	
	<u>Organic</u>	<u>Conv.</u>
Breakeven Price Per Unit		
Operating Costs	\$13.57	\$5.62
Operating & Fixed Costs	\$18.23	\$8.92
Total Costs	\$21.79	\$9.78
Breakeven Yield (Bu or lb.)		
Operating Costs	8.7	19.7
Operating & Fixed Costs	11.6	31.2
Total Costs	13.9	34.2

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Flax – Operating Costs


	<u>Flax</u>	
	<u>Organic</u>	<u>Conv.</u>
A. Operating Costs		
Seed & Treatment	\$46.07	\$22.80
Fertility	\$76.01	\$43.27
Compost	\$12.23	\$0.00
Herbicide	\$0.00	\$18.25
Fungicide	\$0.00	\$14.38
Insecticide	\$0.00	\$0.00
Fuel	\$17.51	\$15.83
Machinery Operating	\$10.00	\$10.00
Machinery Lease	\$0.00	\$3.60
Rental and Custom	\$0.00	\$0.00
Crop Insurance	\$27.00	\$14.52
Other Costs	\$7.75	\$7.75
Certification Cost	\$3.33	\$0.00
Land Taxes	\$12.00	\$12.00
Drying Costs	-	\$0.00
<u>Interest on Operating</u>	<u>\$5.83</u>	<u>\$4.47</u>
Total Operating	\$217.73	\$166.87

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Flax – Fixed Costs


	Flax	
	Organic	Conv.
B. Fixed Costs		
Land Investment Costs	\$53.75	\$53.75
Machinery Depreciation	\$22.19	\$45.91
Machinery Investment	\$5.55	\$11.48
Storage Costs	\$2.03	\$3.27
Total Fixed	\$83.51	\$114.40
Total Operating & Fixed	\$301.24	\$281.27
C. Labour	\$64.00	\$30.00
Total Costs	\$365.24	\$311.27

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Flax – Profitability

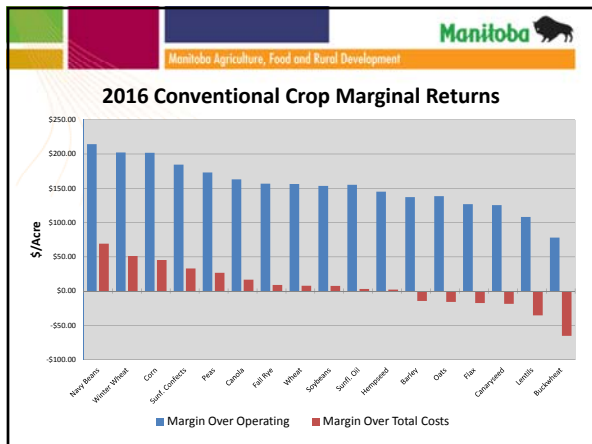
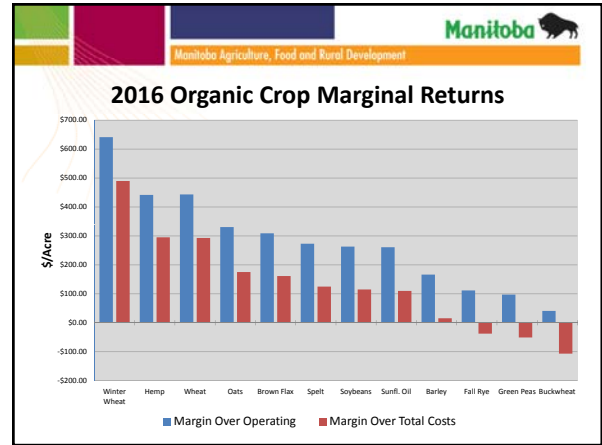
	Flax	
	Organic	Conv.
Estimated Farmgate		
Price \$ per unit	\$34.00	\$11.75
Yield per acre (bu or lb.)	15.5	25
Unit type	bu	bu
Gross Revenue / acre	\$527.00	\$293.75
Marginal Returns		
Over Operating Costs	\$309.27	\$126.88
Over Operating & Fixed Costs	\$225.76	\$12.48
Over Total Costs (Net Profit)	\$161.76	(\$17.52)
Operating Expense Ratio	41.3%	56.8%


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Flax – Breakeven Analysis

	Flax	
	Organic	Conv.
Breakeven Price Per Unit		
Operating Costs	\$14.05	\$6.67
Operating & Fixed Costs	\$19.44	\$11.25
Total Costs	\$23.56	\$12.45
Breakeven Yield (Bu or lb.)		
Operating Costs	6.4	14.2
Operating & Fixed Costs	8.9	23.9
Total Costs	10.7	26.5




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Land – Buy More, Rent More, or Neither?


- ✓ Land prices in MB have risen significantly over the past number of years.
- ✓ Cash rental rates have also increased.
- ✓ Any increase in commodity prices has been more than bid into land values and rental rates.
- ✓ Can we afford to farm land at these rent prices or afford to buy land at these prices?
- ✓ Fast answer is.....depends.


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Cash Rent Based on Gross Revenue

- Average range of cash rent across western Canada is 18 to 22% of gross revenue.
- \$400 to \$600 per acre gross revenues.
- **\$72 to \$132** per acre cash rent



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Cash Rent Based on Investment Return on Land Value

(Landowner check & balance)

Gross Revenue x 5 = \$2,000 to \$3,000/ac ← Too Cheap
 x 6 = \$2,400 to \$3,600/ac ← Reality?
 x 8 = \$3,200 to \$4,800/ac ← Insanity
 x10 = \$4,000 to \$6,000/ac ← Insanity

Do you believe that farmland values are solely based on profitability??



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Cash Rent Based on Investment Return on Land Value (cont.)

(Landowner check & balance)

Land market value	\$2,400 per acre
x Long Term Investment Rate (5yr)	2.5 %
+ Property taxes	\$12.00 per acre
Total Cash Land Rental	\$72.00 per acre

Based on "Reality"



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Cash Rent Based on Investment Return on Land Value (cont.)

(Landowner check & balance)

Land market value	\$4,800 per acre
x Long Term Investment Rate (5yr)	2.5 %
+ Property taxes	\$12.00 per acre
Total Cash Land Rental	\$132.00 per acre

Based on "Reality"




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Land Planning – Based on Gross Revenue or Margin Over Operating?

- What if we have:
 - Flat or falling commodity prices?
 - Increasing interest rates?
 - Increasing production costs?
- How long can we make decisions on land and equipment based only on gross revenue??
- Shrinking '**Margin Over Operating**' is going to be a real challenge down the road.


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MYFARM Crop Management Calculator
Cost of Production / Marketing / Management
2016 Crop Year


- ✓ Based on the Crop COP (simple & easy to use)
- ✓ **Cash** costs on annual basis (bushel, ac & total)
- ✓ Use it for: pre season planning; growing season management; & crop marketing before **and** after the crop is in the bin.

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MYFARM Crop Mgmt Calculator

- **Cost of Production:**
 - ✓ Costs per bushel, per acre, & total farm.
 - ✓ Gross revenue estimates.
- **Marketing:**
 - ✓ Breakeven prices & yields
 - ✓ Avg. price sold to date.
 - ✓ B/E price on remaining unsold production.
- **Management:**
 - ✓ Fertilizer, seed and grain storage required.
 - ✓ Op. Expense ratio.
 - ✓ AgrilInsurance values and coverage estimates.
 - ✓ Avg. & B/E land and machinery payment per ac
 - ✓ What If? Analyzer 


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MYFARM – What If? Analyzer

What If?		Printed
Crop Price (Change %, +/-)	0%	
Crop Yield (Change %, +/-)	0%	
Fuel Cost (Change %, +/-)	0%	
Fertilizer Cost (Change %, +/-)	0%	
Added Machinery Lease Annual Payment (\$)	\$0	
Added Machinery Purchase Annual Payment (\$)	\$0	
Acreage Change - Land Purchase (Additional Annual Payment)	\$0	← 0 Acres Purchased
Acreage Change - Land Sale (Reduced Annual Payment)	\$0	← 0 Acres Sold
Acreage Change - Land Rental Payments Per Acre (+/-)	\$0	← 0 Acres (+/-)
Land Rental Rate (Change \$/acre, +/-)	\$0	
Hired Labour Cost (Change +/- \$)	\$0	
Owner Withdrawal (Change +/- \$)	\$0	
Canadian Dollar Exchange Rate - USD (Change \$, +/-)	\$0.00	0 cent change from current value, affects fertilizer cost and grain ma

✓ Calculates the impact of the 'what if' changes on costs, revenues and marginal returns.

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Farm Software & Worksheets (Crops)

- <http://www.gov.mb.ca/agriculture/business-and-economics/financial-management/farm-software-and-worksheets.html>
- Farm Machinery Custom & Rental Rate Guide Calculator - 2014/15
- Crop Land Purchase Values – 2015
- Crop Land Rental Rate - 2015
- Crop Share Lease – 2016
- FertPlan - 2016
- Grain Bin and Farm Building Rental Cost Planner
- Grain Drying Cost Calculator

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Questions ?

For more information

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