
2023 Cost of Production Organic Crops



Guidelines For Estimating Organic Crop Production Costs - 2023

Date: February, 2023

The following budgets are estimates of the cost of producing the most commonly grown organic field crops in Manitoba. General Manitoba Agriculture recommendations are assumed for crop fertility management. 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 organic 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:



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

Additional information and resources on organic crop production in Manitoba is available at: [Organic Crops](#)

Contact Us

For more information, contact a Farm Management Specialist.

- manitoba.ca/agriculture
- mbfarmbusiness@gov.mb.ca
- 1-844-769-6224

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 a Farm Management Specialist.

Organic Crop Production Costs 2023 Guidelines (Dollars Per Acre)									
	Flax	Peas	HRS Wheat	Oats	Hemp Oil	Soy- beans	Barley	Fall Rye	Winter Wheat
A. Operating Costs									
Seed & Treatment	\$75.00	\$75.00	\$60.48	\$60.00	\$53.75	\$84.00	\$37.50	\$30.00	\$48.00
Fertility	\$171.69	\$171.69	\$171.69	\$171.69	\$171.69	\$171.69	\$171.69	\$171.69	\$171.69
Compost	\$15.98	\$15.98	\$15.98	\$15.98	\$15.98	\$15.98	\$15.98	\$15.98	\$15.98
Fuel	\$41.33	\$41.45	\$41.69	\$42.22	\$41.28	\$41.43	\$41.75	\$41.61	\$41.71
Machinery Operating & Lease	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00
Labour - Hired	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00
Crop Insurance	\$57.35	\$22.18	\$58.67	\$49.76	\$40.57	\$20.26	\$25.21	\$15.23	\$61.58
Hail Insurance	\$9.38	\$18.75	\$9.38	\$9.38	\$18.75	\$12.19	\$9.38	\$9.38	\$9.38
Drying & Other Costs	\$17.75	\$17.75	\$17.75	\$17.75	\$37.75	\$17.75	\$17.75	\$17.75	\$17.75
Certification Cost	\$3.33	\$3.33	\$3.33	\$3.33	\$3.33	\$3.33	\$3.33	\$3.33	\$3.33
Land Taxes	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50
Storage Costs	\$3.38	\$4.94	\$8.31	\$15.59	\$2.66	\$4.68	\$9.09	\$7.15	\$8.57
Interest on Operating	\$17.84	\$16.84	\$17.34	\$17.00	\$17.50	\$16.86	\$15.15	\$14.47	\$16.97
Total Operating	\$481.52	\$456.40	\$473.13	\$471.20	\$471.76	\$456.66	\$415.33	\$395.07	\$463.46
B. Fixed Costs									
Land Investment Costs	\$97.17	\$97.17	\$97.17	\$97.17	\$97.17	\$97.17	\$97.17	\$97.17	\$97.17
Machinery Costs	\$86.37	\$86.37	\$86.37	\$86.37	\$86.37	\$86.37	\$86.37	\$86.37	\$86.37
Total Fixed	\$183.54	\$183.54	\$183.54	\$183.54	\$183.54	\$183.54	\$183.54	\$183.54	\$183.54
C. Owners - Labour & Living									
	\$52.00	\$52.00	\$52.00	\$52.00	\$52.00	\$52.00	\$52.00	\$52.00	\$52.00
Total Costs	\$717.06	\$691.94	\$708.67	\$706.74	\$707.30	\$692.20	\$650.87	\$630.61	\$699.00
Profitability Analysis									
Estimated Farmgate									
Target Price \$ per unit	\$53.00	\$20.50	\$23.00	\$10.00	\$1.80	\$30.00	\$10.00	\$10.25	\$19.00
Target Yield per acre (bu or lb.)	13.0	19.0	32.0	60.0	450	18.0	35.0	27.5	33.0
Unit type	bu	bu	bu	bu	lb	bu	bu	bu	bu
Gross Revenue / acre	\$689.00	\$389.50	\$736.00	\$600.00	\$810.00	\$540.00	\$350.00	\$281.88	\$627.00
Revenue Ranking	3	7	2	5	1	6	8	9	4
Operating Expense Ratio	69.9%	117.2%	64.3%	78.5%	58.2%	84.6%	118.7%	140.2%	73.9%
Marginal Returns									
Over Operating Costs	\$207.48	(\$66.90)	\$262.87	\$128.80	\$338.24	\$83.34	(\$65.33)	(\$113.19)	\$163.54
Over Operating & Fixed Costs	\$23.94	(\$250.44)	\$79.33	(\$54.74)	\$154.70	(\$100.20)	(\$248.87)	(\$296.73)	(\$20.00)
Over Total Costs (Net Profit)	(\$28.06)	(\$302.44)	\$27.33	(\$106.74)	\$102.70	(\$152.20)	(\$300.87)	(\$348.73)	(\$72.00)
Profitability Ranking	3	8	2	5	1	6	7	9	4
Return on Investment (ROI)	(3.91%)	(43.71%)	3.86%	(15.10%)	14.52%	(21.99%)	(46.23%)	(55.30%)	(10.30%)
Return on Asset (ROA)	2.88%	(3.42%)	4.16%	1.08%	5.89%	0.03%	(3.39%)	(4.49%)	1.87%
Breakeven Analysis									
Breakeven Price Per Unit									
Operating Costs	\$37.04	\$24.02	\$14.79	\$7.85	\$1.05	\$25.37	\$11.87	\$14.37	\$14.04
Operating & Fixed Costs	\$51.16	\$33.68	\$20.52	\$10.91	\$1.46	\$35.57	\$17.11	\$21.04	\$19.61
Total Costs	\$55.16	\$36.42	\$22.15	\$11.78	\$1.57	\$38.46	\$18.60	\$22.93	\$21.18
Breakeven Yield (Bu or lb.)									
Operating Costs	9.1	22.3	20.6	47.1	262.1	15.2	41.5	38.5	24
Operating & Fixed Costs	12.5	31.2	28.6	65.5	364.1	21.3	59.9	56.5	34.1
Total Costs	13.5	33.8	30.8	70.7	392.9	23.1	65.1	61.5	37
Breakeven Yield Risk Ratio (Yield per acre / BE Yield)	96%	56%	104%	85%	115%	78%	54%	45%	90%

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.

Agrilinsurance Analysis

	<u>Flax</u>	<u>Peas</u>	<u>HRS Wheat</u>	<u>Oats</u>	<u>Hemp</u>	<u>Soy- beans</u>	<u>Barley</u>	<u>Fall Rye</u>	<u>Winter Wheat</u>	<u>Your Farm</u>
Agrilinsurance										
80% Insured Value	\$521	\$359	\$551	\$483	\$366	\$387	\$425	\$554	\$565	
Premium Cost (% of Insured)	11.0%	6.2%	10.7%	10.3%	11.1%	5.2%	5.9%	2.7%	10.9%	
Costs Not Covered By Agrilinsurance										
Operating Costs	\$0	\$98	\$0	\$0	\$106	\$70	\$0	\$0	\$0	
Operating & Fixed Costs	\$144	\$281	\$106	\$172	\$289	\$254	\$174	\$25	\$82	
Total Costs	\$196	\$333	\$158	\$224	\$341	\$306	\$226	\$77	\$134	
Agrilinsurance Risk Ratio	108%	79%	116%	102%	78%	85%	102%	140%	122%	
(Agrilinsurance Coverage / Operating Cost)										
Risk Ranking	4	8	3	5	9	7	6	1	2	

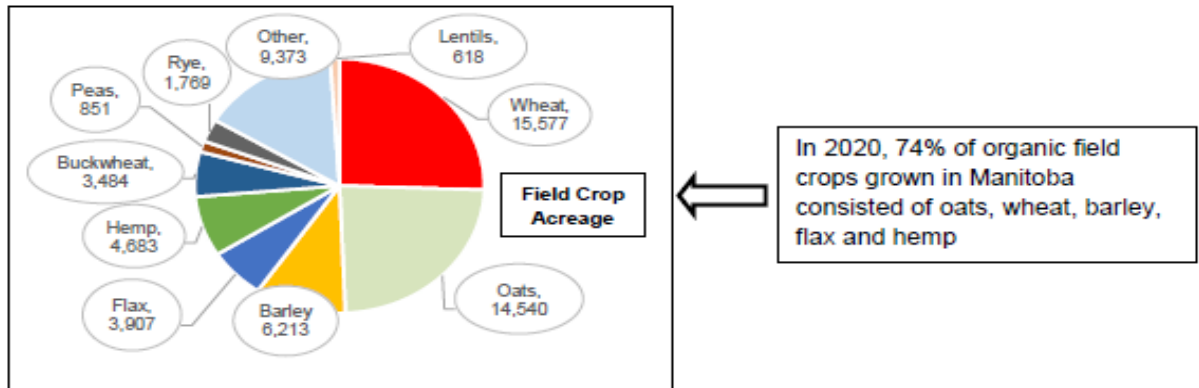
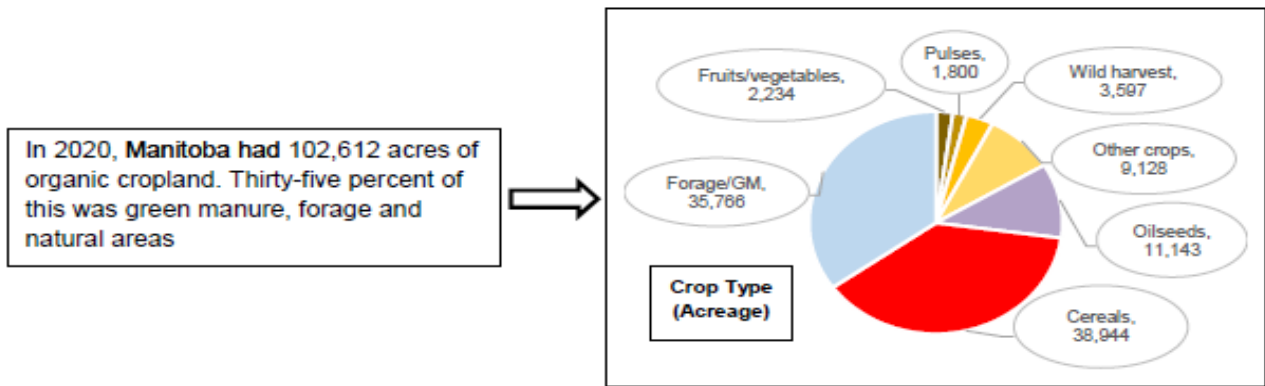
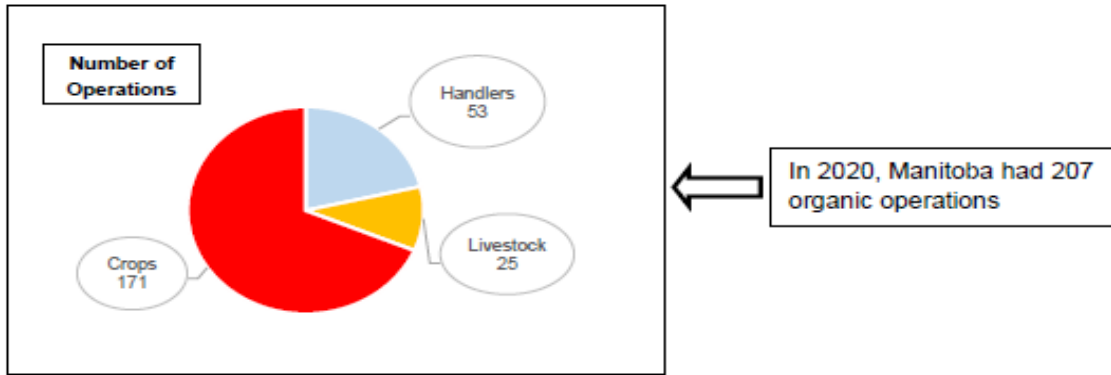
Sensitivity Analysis (Stress Test)

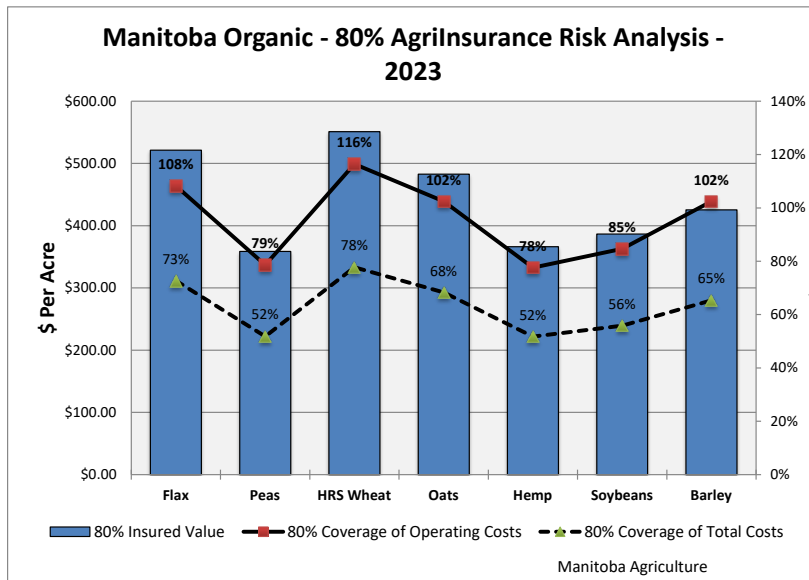
Percent Market Price Change	(5.0%)
Percent Crop Yield Change	(10.0%)

	<u>Flax</u>	<u>Peas</u>	<u>HRS Wheat</u>	<u>Oats</u>	<u>Hemp</u>	<u>Soy- beans</u>	<u>Barley</u>	<u>Fall Rye</u>	<u>Winter Wheat</u>	<u>Your Farm</u>
Market Price (\$ per unit)	\$50.35	\$19.48	\$21.85	\$9.50	\$1.71	\$28.50	\$9.50	\$9.74	\$18.05	
Yield (per acre)	12	17	29	54	405	16	32	25	30	
Stress Test Scenario = Market Price Down 5%, and Crop Yield Down 10%										
Gross Revenue / acre	\$604.20	\$331.08	\$633.65	\$513.00	\$692.55	\$456.00	\$304.00	\$243.44	\$541.50	
Marginal Returns										
Over Operating Costs	\$122.68	(\$125.32)	\$160.52	\$41.80	\$220.79	(\$0.66)	(\$111.33)	(\$151.64)	\$78.04	
Over Operating & Fixed	(\$60.86)	(\$308.86)	(\$23.02)	(\$141.74)	\$37.25	(\$184.20)	(\$294.87)	(\$335.18)	(\$105.50)	
Over Total Costs (Net Profit)	(\$112.86)	(\$360.86)	(\$75.02)	(\$193.74)	(\$14.75)	(\$236.20)	(\$346.87)	(\$387.18)	(\$157.50)	
Profitability Ranking	3	8	2	5	1	6	7	9	4	
Operating Expense Ratio	79.7%	137.9%	74.7%	91.9%	68.1%	100.1%	136.6%	162.3%	85.6%	

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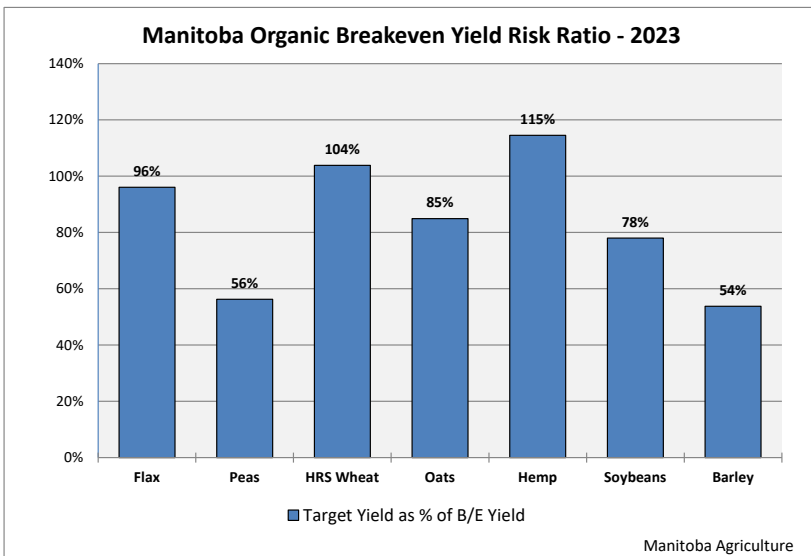
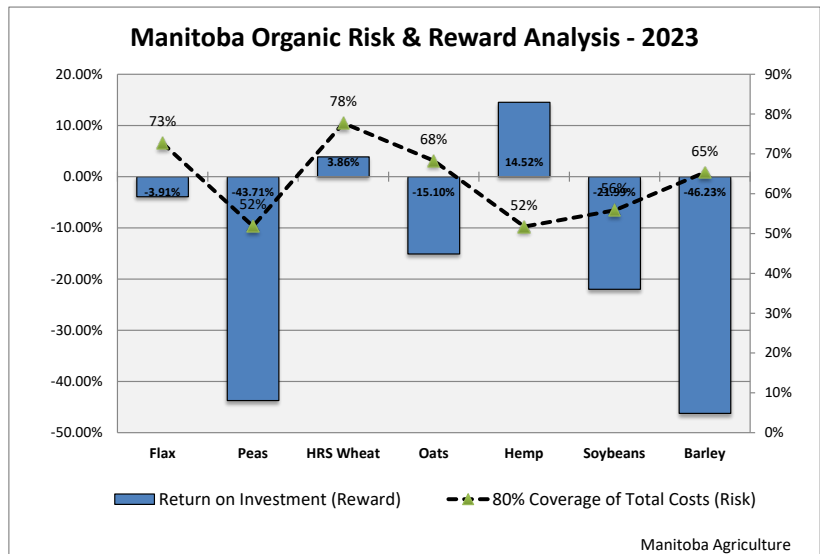
MANITOBA ORGANIC SECTOR AT A GLANCE





Analysis of your AgrilInsurance 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.

Seed

<u>Crop</u>	<u>Seeding Rate per Acre</u>	<u>Price per Unit</u>	<u>Cost per Acre</u>
Flax	60 lb	\$1.25 /lb	\$75.00
Peas	3.00 bu	\$25.00 /bu	\$75.00
HRS Wheat	2.16 bu	\$28.00 /bu	\$60.48
Oats	4.00 bu	\$15.00 /bu	\$60.00
Hemp	25 lb	\$2.15 /lb	\$53.75
Soybeans	84 lb	\$1.00 /lb	\$84.00
Barley	2.5 bu	\$15.00 /bu	\$37.50
Fall Rye	2 bu	\$15.00 /bu	\$30.00
Winter Wheat	2.0 bu	\$24.00 /bu	\$48.00
<u>Green Manure Crop</u>			
Sweet Clover	7 lb	\$2.25 /lb	\$15.75
Forage Oat /Vetch Mix	170 lb	\$0.44 /lb	\$74.80 (50 lb oats, vetch)
Forage Peas	2 bu	\$25.00 /bu	\$50.00
Alfalfa	3.75 lb	\$4.00 /lb	\$15.00
<u>Underseed Crop</u>			
Red Clover	10 lb	\$3.25 /lb	\$32.50

Soil Fertility

<u>Soil Fertility Rotation</u>					
Greenmanure Plowdown rotation	1	year	every	4	years
Red Clover Underseed rotation	1	year	every	4	years
<u>Green Manure Crop</u>					
	<u>Usage of each crop type</u>				
Sweet Clover	0%				
Forage Oat /Vetch Mix	100%				
Red Clover	0%				
Forage Peas	0%				
Alfalfa	0%				
	100%	(Total must = 100%)			

Total Annual Fertility Cost \$171.69 /acre

<u>Compost</u>	
Compost cost	\$10.50 /ton
Compost application cost	\$15.00 /cubic yard
Compost application rate (tons)	0.45 /acre
Compost bulk density (tons)	0.60 /cubic yard
Compost cost	\$4.73 /acre
<u>Compost application</u>	\$11.25 /acre
Total Compost Cost	\$15.98 /acre
Total Annual Compost Cost	\$15.98 /acre

Organic Certification

Certification Costs	600 organic acres	
Annual Fee		\$1,500
Inspection Fee		\$500
Total		\$2,000
Cost per acre		\$3.33 /acre

Operating Costs

Interest Rate on Operating	7.75%	<u>Grain Hauling</u>	
Land Taxes (\$/acre)	\$17.50	Distance to storage	6 miles roundtrip
Labour rate (\$/hour)	\$26.00	Distance to market	0 miles roundtrip
Machinery Operating (\$/acre)	\$25.00	Grain truck fuel use	5 Miles per Imp. Gallon
Other Costs (\$/acre)	\$17.75	Grain truck size	475 bushels
Fuel Cost (\$/litre)	\$1.65		
Owners - Labour & Living (hrs/acre)	2.0		

Operating Cost (\$/Acre)

Crop	Hired Labour (hrs/acre)	Fuel	Crop		Drying Costs	Storage \$/acre	Rental and Custom Costs					Total
			Insurance	Hail Insurance			Seeding	Application	Swathing	Harvest	General	
Flax	1	\$41.33	\$57.35	\$9.38	\$0.00	\$3.38	-	-	-	-	-	\$0.00
Peas	1	\$41.45	\$22.18	\$18.75	\$0.00	\$4.94	-	-	-	-	-	\$0.00
HRS Wheat	1	\$41.69	\$58.67	\$9.38	\$0.00	\$8.31	-	-	-	-	-	\$0.00
Oats	1	\$42.22	\$49.76	\$9.38	\$0.00	\$15.59	-	-	-	-	-	\$0.00
Hemp	1	\$41.28	\$40.57	\$18.75	\$20.00	\$2.66	-	-	-	-	-	\$0.00
Soybeans	1	\$41.43	\$20.26	\$12.19	\$0.00	\$4.68	-	-	-	-	-	\$0.00
Barley	1	\$41.75	\$25.21	\$9.38	\$0.00	\$9.09	-	-	-	-	-	\$0.00
Fall Rye	1	\$41.61	\$15.23	\$9.38	\$0.00	\$7.15	-	-	-	-	-	\$0.00
Winter Wheat	1	\$41.71	\$61.58	\$9.38	\$0.00	\$8.57	-	-	-	-	-	\$0.00
Green Manure Crop												
Sweet Clover	1	\$33.99	\$0.00	\$0.00	\$0.00		-	-	-	-	-	\$0.00
Forage Oat /Vetch Mix	1	\$33.99	\$0.00	\$0.00	\$0.00		-	-	-	-	-	\$0.00
Forage Peas	1	\$33.99	\$0.00	\$0.00	\$0.00		-	-	-	-	-	\$0.00
Alfalfa	1	\$33.99	\$0.00	\$0.00	\$0.00		-	-	-	-	-	\$0.00
Underseeded Crop												
Red Clover	1	\$19.14	\$0.00	\$0.00	\$0.00		-	-	-	-	-	\$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	misc.	swather	Combine	3/4 ton pickup	grain hauling
		2.9	3.5	1.3	2.8	1.9	0	1.8	6	3	
Flax	25.05	3		2	1			1	1	3	0.15
Peas	25.12	3		2	1			1	1	3	0.22
HRS Wheat	25.27	3		2	1			1	1	3	0.37
Oats	25.59	3		2	1			1	1	3	0.69
Hemp	25.02	3		2	1			1	1	3	0.12
Soybeans	25.11	3		2	1			1	1	3	0.21
Barley	25.30	3		2	1			1	1	3	0.40
Fall Rye	25.22	3		2	1			1	1	3	0.32
Winter Wheat	25.28	3		2	1			1	1	3	0.38
Green Manure Crop											
Sweet Clover	20.60	3	1	2	1					3	
Forage Oat /Vetch Mix	20.60	3	1	2	1					3	
Forage Peas	20.60	3	1	2	1					3	
Alfalfa	20.60	3	1	2	1					3	
Underseeded Crop											
Red Clover	11.60	2	0	0	1					3	

Fixed Costs

Land

Average Land value (\$/acre)	\$3,750
Organic Crop acres	600
Owned Land Equity	85%
Land Financed	15%
Land Opportunity Cost (Investment Rate)	1.50%

Land cost (\$/acre)

Finance Rate & Term	7.250%	25 Years
Principal & Interest Cost		\$49.36
Owned Land Opportunity Cost		\$47.81
Total Cost		\$97.17

Grain Storage

	<u>Usage %</u>	<u>Cost</u>
Non-aeration bins	15%	\$3.50 /bu
Aeration bins	70%	\$4.50 /bu
Hopper bins	15%	\$5.50 /bu
Storage Financed	60%	

Machinery

Total Investment (\$/acre)	\$600.00
Residual Value (End of Useful Life)	25%
Useful Life (years)	15
Owned Equipment Equity	55%
Equipment Financed	45%
Machinery Opportunity Cost (Investment Rate)	1.50%

Machinery Cost (\$/acre)

Finance Rate & Term	7.750%	7 Years
Principal & Interest Cost		\$51.42
Machinery Depreciation Cost		\$30.00
Owned Machinery Opportunity Cost		\$4.95
		\$86.37

Total Land & Machinery Debt (\$/acre)	\$833
Machinery Lease cost (\$/acre)	\$0.00

Owned Equipment Inventory and Current Values

	<u>Market Value</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>		<u>Market Value</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>
Power & Misc Equipment				Harvest Equipment			
4WD Tractor	\$90,000	100%	\$90,000	Combine	\$60,000	100%	\$60,000
2WD Tractor	\$36,000	75%	\$27,000	Swather	\$18,000	100%	\$18,000
ATV Quad	\$4,800	75%	\$3,600	PTO Auger	\$5,400	100%	\$5,400
	\$0	0%	\$0	Auger	\$2,400	100%	\$2,400
	\$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			\$120,600	Total			\$85,800

	<u>Market Value</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>		<u>Market Value</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>
Seeding, Tillage, Spraying				Trucks & Trailers			
Cultivator	\$15,000	100%	\$15,000		\$0	0%	\$0
Harrow	\$12,000	100%	\$12,000	Tandem Grain Truck	\$42,000	100%	\$42,000
Air tank	\$15,000	100%	\$15,000	5th wheel flatdeck	\$2,400	100%	\$2,400
Air drill	\$38,400	100%	\$38,400		\$0	0%	\$0
Rock picker	\$1,800	100%	\$1,800		\$0	0%	\$0
tandem disk	\$9,000	100%	\$9,000		\$0	0%	\$0
granular spreader	\$18,000	100%	\$18,000		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
Total	\$109,200		\$109,200	Total			\$44,400

Owned Equipment TOTAL	\$360,000	\$600.00 per acre
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Leased Equipment Inventory

	<u>Annual Lease</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>		<u>Annual Lease</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>
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
Total			\$0	Total			\$0

	<u>Annual Lease</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>		<u>Annual Lease</u>	<u>Grain Usage %</u>	<u>Grain Allocation</u>
Seeding, Tillage, Spraying				Trucks & Trailers			
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
Total	\$0		\$0	Total			\$0

Leased Equipment TOTAL	\$0	\$0.00 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: (2022 rates)

Risk Area #2 "D" soil zone at 80% coverage and additional hail insurance at \$300/acre coverage for all crops. Flax, HRS Wheat, Oats, Winter Wheat, Peas, Barley and Hemp are based on organic insured values.

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.

Interest On Operating: Interest charges on operating costs are calculated at 7.75% for six months.

Land Cost:

Based on approximate average land values. Budget assumed 1.5% financed at 7.25% for 25 years, plus 1.5% land equity opportunity cost. Budget can be used to estimate cashflow by removing investment cost.

P&I Cost (based on \$337,500 Mortgage) = \$29,616 payments per year / 600 acres = \$49.36/acre)

Investment = (Total Investment x Owned Equity %) x Investment Rate % (eg. ((\$3,750 x 85%) x 1.5%) = \$47.81/acre)

Machinery Cost:

Based on approximate average machinery values. Budget assumed 45% financed at 7.75% for 7 years, depreciation costs over 15 years with a 25% residual value, plus 1.5% machinery equity opportunity cost. Budget can be used to estimate cashflow by removing depreciation and investment cost.

P&I Cost (based on \$162,000 Loans) = \$30,850 payments per year / 600 acres = \$51.42/acre)

Depreciation (Useage Cost) = (Total Investment - Residual Value) / Years Useful Life (eg. (\$600.00 - (\$600.00 x 25%)) / 15 = \$30.00/acre)

Investment = (Total Investment x Owned Equity %) x Investment Rate % (eg. (\$600 x 55%) x 1.5%) = \$4.95/acre)

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

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

Estimated Farmgate Values:

Target crop prices are based on MASC insured values for 2022.

Target crop yields are based on 40-60% of conventional crop average yields.

Storage Cost:

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

Budget assumed 60% financed at 7.25% for 20 years.

Farm storage requirements were assumed to cost \$3.50/bushel for 15% of the storage, \$4.50/bushel for 70% aerated storage and \$5.50/bushel for 15% hopper storage.

Profitability, Breakeven & Risk Analysis Formulas:

Gross Revenue = Price per unit x Yield per acre (eg. wheat: \$23.00/bu x 32bu/ac = \$736.00/ac)

Net Profit = Gross Revenue - Total Cost (eg. wheat: \$736.00 gross revenue - \$708.67 total cost = \$27.33 per acre)

Operating Expense Ratio = (Operating Cost / Gross Revenue) x 100 (eg. wheat: \$473.13 operating expense / \$736.00 total cost = 64.3%)

Return on Investment (ROI) = (Gross Revenue - Total Cost) / Total Cost (eg. wheat: (\$736.00 - \$708.67) / \$708.67 = 3.86%)

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

(eg. wheat: (\$262.87 margin - \$52.00 labour - \$30.00 dep.) / (\$3750 land cost + \$600.00 machinery) = 4.16%)

Breakeven Price = Cost / Target Yield (eg. wheat cost \$708.67 / 32 bu = \$22.15 per bu)

Breakeven Yield = Cost / Price per Unit (eg. wheat cost \$708.67 / \$23.00 bu = 30.8 bu)

Breakeven Yield Risk Ratio = (Yield per Acre / Breakeven Yield) x 100 (eg. wheat yield 32 bu/ac / 30.8 bu BE = 104%)

AgriInsurance Risk Ratio = (AgriInsurance Coverage / Operating Cost) x 100 (eg. wheat coverage \$550.88/ac / \$473.13 operating expense = 116%)

February, 2023

Contact Us

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- 1-844-769-6224

Technical Information for Producers Considering a Transition to Organic Production

The Transition Process

The Canadian Organic Regime requires operators in transition to organic to demonstrate that prohibited substances such as synthetic fertilizers and pesticides have not been applied to fields for at least 36 months. However, producers can wait until 15 months prior to harvesting an organic crop to make an application to an organic Certification Body. Expect at least one on-farm pre-inspection to ensure compliance with organic standards during this period.

An organic production unit is covered by an operator's organic plan. The unit can consist of separate fields and buildings. The same legal farm entity can also include non-organic land. However, the organic production unit must be sufficiently segregated to ensure that there is no cross-contamination from products used on non organic land. Operators must also aim for a complete transition to organic of all land within a single legal entity, although no time frame is specified. Organic and conventional land that are managed as separate legal entities are not subject to this requirement.

In the case of *split production*, where crops grown under organic and non-organic production are visually distinguishable, as for example with red and orange carrots, producers need only keep good records to ensure that conventional products are not sold as organic. *Parallel production*, in which organic and conventional crops are not visually distinguishable by the average person, as for example with the same variety of organic and conventional wheat, is allowed only for annual crops harvested in the final 24 months of transition when fields are added to an existing operation, for perennial crops that are already planted, for research facilities and for seed production and vegetative propagating materials.

Transitioning producers are required to outline measures taken to minimize physical movement of prohibited substances such as pesticides or pollen from genetically engineered crops from adjacent farms and from equipment used in both organic and non organic crops. Buffer zones of at least 8 m wide must be used to separate organic farms from adjacent non organic farms. Buffers can include hedgerows, roads, or other physical barriers. Crops grown in buffer zones cannot be considered as organic. Canola production on adjacent land represents a particular challenge in Prairie organic production because of the large distances over which pollen can be spread. For this reason, organic canola is rarely grown in the Prairie.

A lot of thinking and planning must happen before you file your initial organic plan with a Certification Body. You will need a plan for building soil fertility, managing pests, diseases and weeds as well as for segregating organic and conventional products.

The following parts of the organic plan are particularly important for success. First, a good crop rotation that alternates plants from different families over cropping seasons will go a long way to reducing disease risk. Second, nutrient management is critical in organic agriculture. Options for building nutrients include planting a dedicated green manure – a legume crop that fixes its own nitrogen, every few years. The green manure is plowed into the soil so that nutrients become available to the following crops. Producers need to carefully plan rotations to match nutrient

needs of the crops in the rotation with nutrient availability. Typically organic producers plant a crop with high nitrogen needs in the year following termination of a green manure crop, while a nitrogen-scavenging crop such as oats, or a nitrogen-fixing legume cash crop is seeded when soil nitrogen levels are expected to be lower. Organic producers may also intercrop legumes into cash crops to provide a nitrogen bump between green manure years. Phosphorous can be maintained through light applications of animal manure. Although there are some approved nutrient inputs, these can be expensive. Over the long term, you might achieve more success if you can suppress the urge to replace conventional inputs with approved organic inputs.

Finally, a good weed management program is crucial. Your goal as an organic farmer is not necessarily to eliminate weeds. By getting your crop established without significant weed competition for light, water and nutrients, the crop canopy will cover the soil, starving weeds of the resources they need to affect crop yield. Organic farmers have many weed management strategies and they attack weeds from different angles using *many little hammers*. Tools include early or late seeding, higher seeding rates, good seedbed preparation, including blind harrowing prior to seeding, narrow row spacing, and low impact cultivation equipment. Specialized equipment from Europe has been a game-changer for Prairie organic farmers, enabling them to do post emergent cultivation in rows as narrow as four inches. Reduce tillage frequency and depth as much as possible to reduce damage to soil structures and soil organisms. Perennial weeds tend to be the most challenging weeds to manage. Organic producers break up annual and perennial weed cycles by including both spring and fall-seeded crops into the rotation and by incorporating perennials such as alfalfa for two to three years at a time.

Business Risk Mitigation Strategies in Organic

Consider the following to help you decrease the risk associated with a transition to organic:

Gradual transition Split production is allowed in organic (see above), so consider bringing in a small amount of land into organic over a number of years

Cost of Production Manitoba Agriculture produces organic and conventional Cost of Production resources in the same format for most of the same field crops to facilitate direct comparison of costs and returns each year

Crop Insurance Manitoba Agricultural Services Corporation (MASC) provides organic insurance options for some crops. Look at the coverage and premiums for each of the crops for which MASC offers an organic option and determine on a crop by crop basis whether the organic option makes sense. Organic premiums are higher than conventional. Coverage is established using historical individual yield data. Producers can provide proof of historical yields to develop individual probable yields. Currently there is an organic option for all wheats, fall rye, oats, flax, barley, peas and hemp. Keep in mind that if you ensure your organic crop using the conventional program when an organic option is available that the crop will be subject to the same weed tolerance and fertility expectation as conventional crops.

Forward Contracting Finding that right balance between spot markets and contracting will enable you to decrease stress and keep cash flowing, while still allowing you to take advantage of favourable market conditions that may develop after harvest

Crop Quality Processors pay more for organic crops. In return, they expect high quality grains. Check out PivotandGrow.com for resources on production and post harvest management practices that will help you improve grain quality and decrease dockage

Bin Capacity Organic is a niche market, which means there will often be times when the best strategy is to store your organic crop. Make sure you have the latest in bin technology so that you can keep your crops in top shape while you wait for the right time to sell

Resources

Canadian Food Inspection Agency (CFIA) www.inspection.gc.ca for current organic regulations and standards, along with a list of accredited Certification Bodies

Canadian Organic Growers (COG) www.cog.ca to order the Organic Field Crop Handbook and other valuable production resources

Manitoba Agricultural Services Corporation (MASC) www.masc.mb.ca

Manitoba Agriculture www.gov.mb.ca/agriculture/farm-management/production-economics/cost-of-production.html

Manitoba Organic Alliance (MOA) www.manitobaorganicalliance.com to signup for a monthly e-newsletter and to stay current on organic events

OrganicBiz.ca www.organicbiz.ca for monthly price lists and updates on the organic market

PivotandGrow.com www.pivotandgrow.com for information on organic production and markets

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