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ORGANIC OR CONVENTIONAL? YOU DECIDE

The Economic Benefits of Entering the Organic Market

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Senior Pro-Cert agrologists working with experienced organic and conventional producers and with agricultural economists compared organic and conventional grain farming systems using yields, prices and costs which were considered relevant for 2014 and perhaps beyond. In assessing the relative merits of organic and conventional farming systems, the defining economic factors are:

- Relative Costs and Returns,
- Relative Yields and Prices and Sustainability,
- Organic Market prospects,
- Relative Capital needs, and
- Relative Risk.

Costs and Returns

The best economic basis for comparing organic and conventional cropping systems over time is a comparison of gross returns, variable costs and net returns for similar rotation on the same soil type and zone. Net returns to labour and investment before taxes and depreciation are considered.

Black Soil Zone

The relative yields, prices, costs and returns for organic and conventional cropping systems for continuous rotations on a medium textured soil in the Black Soil Zone are depicted in Figure A and Tables 1 and 2 below.

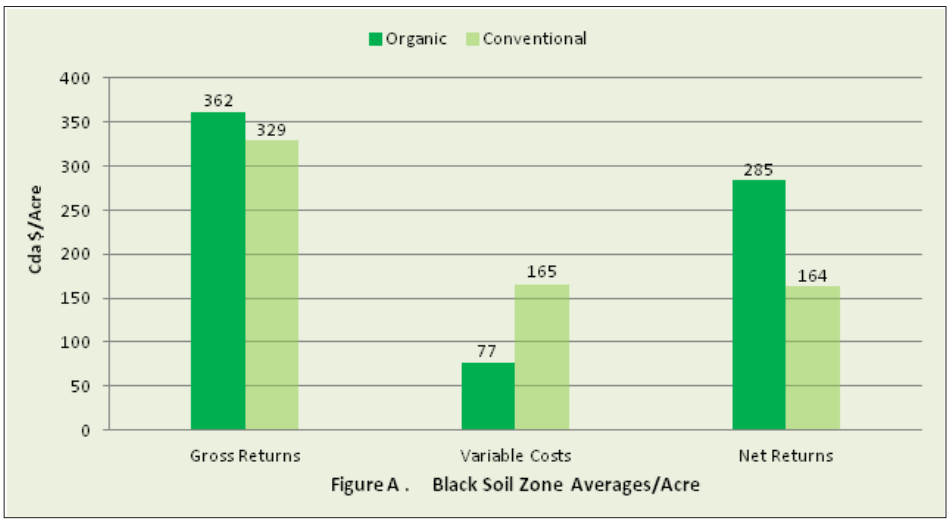


Figure A . Black Soil Zone Averages/Acre

These very realistic and typical data for the humid arable regions of Western Canada, including the Gray Black and Gray soil zones, indicate that while average annual gross returns per acre for organic systems are only slightly higher than conventional, net annual returns are almost double those of conventional cropping systems in this region.

This organic advantage primarily is related to the fact that organic prices are 2 to 3 times those of conventional, and organic variable costs are less than half of conventional variable costs. When fixed costs are added into the calculation, the organic advantage is even more apparent as the fixed costs for organic farms are also substantially lower than those for conventional farms.

Table 1: Organic Crop Yields, Costs and Returns
5 Year Continuous Rotation – Black Soil Zone

Rotation Year	Crop	Yield (bus/ac)	Price ($/bus)	Variable Costs ($/ac)	Gross Returns ($/ac)	Net Returns ($/ac)
1	Silage Pea Plow-down	---	---	70	---	(70)
2	Flax	18	30.00	80	540	460
3	Green Peas	25	16.00	85	400	315
4	Spring Wheat	30	16.00	80	480	400
5	Oats	65	6.00	68	390	322
Total – 5 yrs.		138	---	383	1810	1427
Averages – 5 yrs.	---	28	---	77	362	286

Table 2: Conventional Crop Yields, Costs and Returns
6 Year Continuous Rotation – Black Soil Zone

Rotation Year	Crop	Yield (bus/ac)	Price ($/bus)	Variable Costs ($/ac)	Gross Returns ($/ac)	Net Returns ($/ac)
1	Canola	38	9.00	200	342	142
2	Spring Wheat	50	6.00	150	300	150
3	Green Peas	40	9.00	160	360	200
4	Canola	38	9.00	200	342	142
5	Spring Wheat	50	6.00	150	300	150
6	Oats	110	3.00	130	330	200
Total – 6 yrs.	---	326	---	990	1974	984
Averages – 6 yrs.	---	54	---	165	329	164

Dark Brown and Brown Soil Zones

Similar cost return comparisons for the more arid Dark Brown and Brown soil zones were made with results as recorded in Tables 3 to 6. The results were the same as those for the more humid region – farmers in the drier regions of Western Canada also can spend half as much to net twice as much per acre as their conventional neighbors.

Table 3: Organic Crop Yields, Costs and Returns
5 Year Continuous Rotation – Dark Brown Soil Zone

Rotation Year	Crop	Yield (bus/ac)	Price ($/bus)	Variable Costs ($/ac)	Gross Returns ($/ac)	Net Returns ($/ac)
1	Legume Plow-down	---	---	65	---	(65)
2	Flax	15	30.00	75	450	375
3	Lentils	800	0.55	85	440	355
4	Spring Wheat	27	16.00	75	432	357
5	Oats	55	6.00	65	330	265
Total – 5 yrs	---	110	---	365	1652	1287
Averages – 5 yrs	---	22	---	73	330	257

Table 4: Conventional Crop Yields, Costs and Returns
6 Year Continuous Rotation – Dark Brown Soil Zone

Rotation Year	Crop	Yield (bus/ac)	Price ($/bus)	Variable Costs ($/ac)	Gross Returns ($/ac)	Net Returns ($/ac)
1	Canola	33	9.00	190	297	107
2	Spring Wheat	40	7.00	140	280	140
3	Lentils	1500	0.20	160	300	140
4	Canola	33	9.00	190	297	107
5	Spring Wheat	40	7.00	140	280	140
6	Oats	90	3.00	120	270	150
Total – 6 yrs	---	261	---	940	1742	784
Averages – 6yrs	---	44	---	157	287	131

Table 5: Organic Crop Yields, Costs and Returns
3 Year Continuous Rotation – Brown Soil Zone

Rotation Year	Crop	Yield (bus/ac)	Price ($/bus)	Variable Costs ($/ac)	Gross Returns ($/ac)	Net Returns ($/ac)
1	Legume Plow-down	---	---	60	---	(60)
2	Spring Wheat	25	16.00	70	400	330
3	Oats	50	6.00	60	300	240
Total – 3 yrs	---	75	---	190	700	510
Averages – 3yrs	---	25	---	63	233	170

Table 6: Conventional Crop Yields, Costs and Returns
4 Year Continuous Rotation – Brown Soil Zone

Rotation Year	Crop	Yield (bus/ac)	Price ($/bus)	Variable Costs ($/ac)	Gross Returns ($/ac)	Net Returns ($/ac)
1	Canola	25	9.00	180	225	45
2	Spring Wheat	30	7.00	130	210	80
3	Lentils	1400	0.20	150	280	130
4	Spring Wheat	30	7.00	130	210	80
Total – 4 yrs	---	108	---	590	925	335
Averages – 4 yrs	---	27	---	148	231	84

Cost-Return Summary

The cost-return data for organic and conventional farming systems for prairie and parkland regions are summarized below:

Soil Zone	Farming System	Variable Costs ($/ac)	Gross Returns ($/ac)	Net Returns ($/ac)
Black	**Organic**	**77**	**362**	**285**
	Conventional	165	329	164
Dark Brown	**Organic**	**73**	**330**	**257**
	Conventional	157	287	131
Brown	**Organic**	**63**	**233**	**170**
	Conventional	148	231	84
All	**Organic**	**71**	**308**	**237**
	Conventional	157	282	126

These numbers clearly demonstrate that the organic advantages over conventional holds true for the entire arable Western Canadian prairie and parkland region. On average, organic prairie farmers, regardless of their effective precipitation/soil zone, need to spend half as much per acre in order to make almost twice as much as their conventional neigbours.

Relative Yields and Prices and Sustainability

Crop Yields and Sustainability

Organic grain yields under Western Canadian Prairie conditions at this time are known to be 60 to 80% of conventional yields (see Tables 1 to 6). However, this ratio varies with management skills and the availability of animal manure. Organic/conventional yield parity is obtainable but is not necessary in organic agriculture.

Organic yields, primarily because they depend on proven natural production techniques have sustained the human race for some 14,000 years and must be considered sustainable.

Current conventional crop yields on the other hand, depend on an unnatural system of monoculture coupled with annual synthetic fertilizer and pesticide dosages. The sustainability of this 70 year old crop production experiment/system is at best uncertain and at worst impossible.

Crop Prices and Sustainability

The relative organic and conventional grain prices predicted for 2014 below are also considered typical of what prairie farmers can expect in the near future.

Crop	Conventional	Organic
Spring Wheat	8.00	**16.00**
Malt Barley	4.0	**9.00**
Oats	3.00	**6.00**
Flax	12.00	**30.00**
Soybeans	12.00	**26.40**
Green Peas	9.00	**16.00**
Corn	4.00	**11.00**
Lentils	12.00	**33.00**
Mustard	16.00	**28.00**
Canola	9.00	**---**

The recent spike in conventional grain prices which seemed permanent in early 2013 has collapsed as have previous conventional grain price spikes. The inflation adjusted buying power of conventional grain likely will continue its century-long decline. Organic prices (and premiums) have slumped once in 30+ years - the recent USA/Global recession.

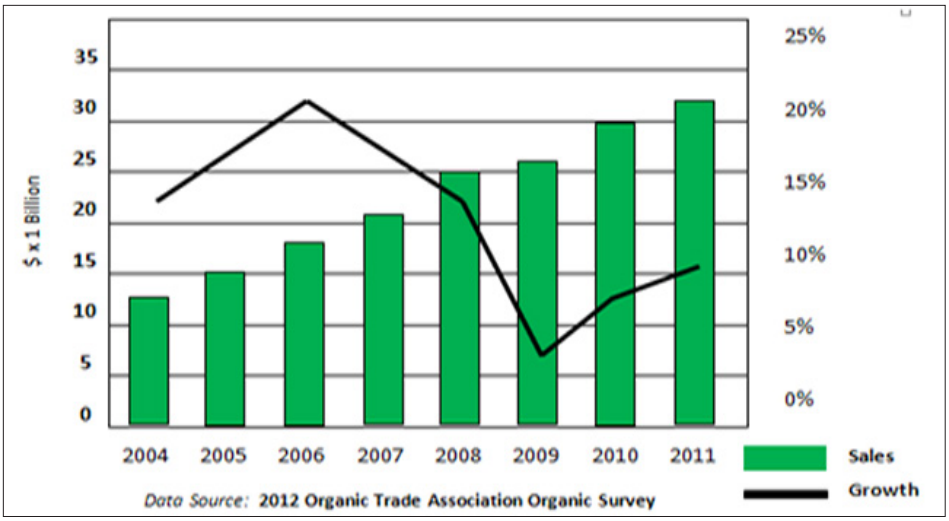
The dramatic 2013/14 organic price and premium recovery, coupled with the recent decrease in organic retail prices and the continuing North American need to import organic produce from other countries is a harbinger of strong future organic grain and produce prices.

Organic Market Prospects

The demand for organically produced food increased with human population growth until the 1940's when conventional, synthetic input based food production and processing almost completely displaced the demand for traditionally produced food in the "super market" era. The demand for "organic" and, more recently, "certified organic" food rekindled in the 1980's in response to growing consumer dissatisfaction and concern about the quality and safety of this "ersatz" food. Until recently, there were enough like minded producers to satisfy this demand.

The sales data below for certified organic food in the USA in recent years clearly indicates that the demand for traditionally produced "organic" food is back with a vengeance.

US Total Organic Sales & Growth, 2004-2011



The USA official statistics for 2012 and 2013 are not available, but interim data indicate continued growth at a 10% plus per annum rate. These sales data for the USA do not include uninformed consumer demand for the so-called "Natural" food products – an unregulated, uncertified food brand which captures market share equal to organics at this time.

The oldest and most persistent threat to global organic market prospects is the continuing and growing presence of the so-called "natural" foods on retail shelves. This spurious and unregulated brand has increased its market share over the organic brand in recent years. This increase appears in part to be related to an increase in the number and types of food and other products which are labelled "natural". Consumer education continues to be our only defence against this threat. There is no indication of regulatory intervention on this misleading labelling issue.

The continuing contamination of plant genetics with unacceptable material is also a chronic threat to the organic industry.

A recent and new threat in North America is the failure of domestic production to meet domestic demand. There is an urgent need to attract new producers and production in order to retain our reputation as reliable supplier of certified organic produce.

Relative Capital Needs

The land, building and equipment needs of a viable, sustainable organic farming operation are substantially less than those for a conventional farm with the same net annual returns.

Given that organic farmers can net twice as much per acre as their conventional neighbors, they need to own and rent half as much land for the same net income. Similarly, they need to own or lease half as much "steel" as their conventional counter-parts.

Then, also there is the almost complete absence of the need for fertilizer and pesticide storage, transportation and application equipment on an organic operation. This is only slightly offset by the greater need for traditional tillage equipment in organic crop production, e.g. discs for legume plow-down and light duty cultivators and rod weeders for seed-bed preparation and weed control.

Relative Risk

In assessing the relative risk between organic and conventional farms, it is readily apparent that organic farmers:

1. net $3.70 annually for every $1.00 invested in variable costs compared to $1.00 annually for every $1.00 invested by conventional farmers;
2. need to spend half as much on variable costs to achieve twice the net annual returns and therefore also;
3. need to own/lease half as much land to create equivalent net incomes; and
4. need to own/lease half as much infrastructure as their conventional counter-parts.

"Transitional risk" related to the 36 month transition period during which 2 crops grown organically must be sold at conventional prices (or saved for seed) and to the cost of learning how to farm organically *(lehr gelt)* does exist and must be considered. However, transitional costs are offset by reduced variable costs and can be minimized by gradual diversification from conventional to organic production.

Summary

This assessment forecasts a new era of opportunity for conventional farmers seeking diversification and relief from the high cost/low return farming experiment/system. Organic, demand and price sustainability seem assured and yields are improving as traditional knowledge is extended and re-invented. It also provides a powerful incentive for existing organic farmers to stay in organic agriculture despite periodic conventional grain price spikes.

Notes:

1. The variable cost estimates for ***organic rotations*** were based on on-farm data for 2014.
2. The variable cost estimates for ***conventional rotations*** were based on Saskatchewan Agriculture & Food data for 2014.

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About Pro-Cert

Pro-Cert Organic Systems Ltd. (Pro-Cert) is one of North America's foremost certifier's of organic products. With a client base including producers, processors and traders from across Canada and the United States of America, Pro-Cert is fast becoming one of the most prominent players in the certification field. Pro-Cert's certification program is recognized globally providing international access to the products and brands we certify.

Why Choose Pro-Cert?

Our system provides a customer friendly approach to operating within a regulated system, ensuring the integrity of your organic product and brand.

Our knowledgeable staff includes professional Food Scientists, Agrologists, Biologists and Animal Scientists, which makes our Inspection and Evaluation team unmatched in the industry.

Pro-Cert's Fee Structures are all-inclusive. When you receive a quotation from Pro-Cert there are no additional inspection, membership or transaction fees.

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