

Transition to Organic Crop Production

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Factsheet

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WHY TRANSITION TO ORGANIC?

Surveys to determine the reasons people farm organically show that motivations vary from farm to farm and usually reflect the values and goals of each member of the farm team.

Studies of farmers practicing organic farming for many years found the following common reasons:

- effects of chemicals on health
- effects of conventional farming on soil quality and conservation
- dissatisfaction with conventional farming practices
- personal or family health problems
- decline in family farms and rural communities
- opportunity to improve farm profitability

For many organic growers, finances and profitability are less important than personal values of health, environment and other social issues. There is also a greater personal satisfaction that the success of the farm is a result of personal decisions and on-farm inputs with less reliance on outside purchases.

Recent converts to organic are attracted by the price premiums and reduced costs. These fluctuate with seasonal factors including product supply and demand. It is anticipated that over time some premiums will decrease as larger buyers enter the marketplace.

WHAT IS THE TRANSITION PERIOD?

The Canadian Organic Standards require that land be managed according to the organic standards for 36 months prior to harvest of the first organic crop. This period is known as the transition period. There are two aspects to conversion. One is grower skills and experience to farm and the second is transition of the land.

Growers with little or no farm experience will find the transition to organic the most difficult. A primary consideration is the need for technical production

information. As with any new business, there are many factors to consider to ensure success. A strong business plan ensures a sound approach. A business plan describes:

- who you are
- what you plan to achieve
- what you are going to produce
- how and when you expect to get started
- how you will overcome the risks involved
- what are the estimated returns

For more details see the OMAFRA Factsheet *Preparing Business Plans*, Order No. 08-051.

WHAT DO THE ORGANIC STANDARDS REQUIRE?

The Canadian Organic Standards includes two documents, both amended October, 2008:

- Organic Production Systems — *General Principles and Management Standards* (CAN/CGSB 32.310-2006)
- Organic Production Systems — *Permitted Substances List* (CAN/CGSB 32.311-2006)

Specific transition requirements are in section 5.1 of the *General Principles and Management Standards*. During transition, production must meet all of the many standards requirements, including the following.

- The land must be managed as organic for 36 months prior to the first organic harvest and during the last 12 months of this period, it must be under the supervision of an organic certification body (i.e. that the farm has been reviewed and approved as a transitional organic farm).
- The goal of the enterprise must be for a complete transition of its production. During the transition phase split production is allowed if organic and non-organic products are distinguishable. Parallel

production of the same product is not allowed. Parallel production is where the same crop is produced both organically and non-organically.

- Production units must have distinctly-defined boundaries. Boundaries must be readily visible and defined on a map.
- Buffer zones between organic and non-organic production must be at least eight metres wide and this production may not be used or sold as organic. This can include permanent hedgerows, windbreaks, permanent roads or physical barriers.
- Production units cannot alternate between being organic and non-organic production. If you have a problem with a field it cannot be rotated between organic and non-organic.

STEPS TO TRANSITION

1. Knowledge

Many people when considering organic production move quickly to the production logistics and what is needed to get their land transitioned. The first step however should be to improve the business and operational skills of the manager.

Before transitioning to organic do the research to understand the benefits and risks that organic production and sales may have for your farm.

- Gain the knowledge needed for field production, on-farm processing and marketing of the crop.
- Set goals for the farm.
- Learn the organic standards for the organic production of your crops.
- Understand the differences between your previous production experiences (usually in conventional farming) and your expectations in organic.
- What assets and resources are needed for transition on your farm? (See also OMAFRA Factsheets *Starting an Organic Farm*, Order No. 09-073 and *Introduction to Organic Farming*, Order no. 09-077).
- Use consultants or seek out other experienced people in the sector for advice.

Do not underestimate the knowledge step. In many cases it will take several years to do the appropriate research.

2. Make a Plan

Organic standards require an “Organic Plan” outlining the details of transition, production, preparation, handling and management practices. Update the plan annually and include recordkeeping to ensure product traceability. In many cases this plan becomes a major part of the application for certification.

A good plan outlines all aspects of the operation, both existing and planned. Include expected crop rotations, tillage plans, weed, insect, disease and other pest considerations, and include field maps and aerial photographs where available. Also include equipment and facility needs, including the expected improvements and related timelines.

Determine how the crop will be marketed and the market requirements for the crop before planting. This includes what product, potential buyers, if contracts are available, quality and container specifications as appropriate, and of course, expected price. An old adage says that if you do not know where to sell it – don’t plant it!

The plan should set reasonable expectations for normal situations and be flexible enough to accommodate changes due to weather or other conditions beyond the grower’s control.

3. Land

Once the decision to transition to organic is made, the next step is how to convert the crops in the field.

Are you going to transition all fields at once or a small percentage of the farm during the first year? For livestock farms it may make sense to transition all fields at once to obtain a total organic ration as soon as possible. For crop farms it may be logical to start on part of the acreage and then gradually increase to the whole farm. When doing a gradual transition always pick the best field to start (good yields, good fertility, good soil and drainage, good crop history of weed control, one close to home where you will view it often).

For long-term planning decide which crops are to be grown organically based on market opportunities, on-

farm needs such as livestock feeds and soil management needs, including rotations and cover crops.

In the short term decide which crops to grow during the transition to organic. High value annual crops, such as most vegetables, usually have high requirements for management and inputs for fertility and pest management. There is also often a high risk of lower marketable crop yields during transition and this can be a significant financial risk. These crops are often not suited for the transition years.

High value perennial crops such as fruit trees often are not harvested in the first couple of years after planting. Take care to manage:

- pest issues during the transition that may be more difficult than in non-organic
- crops in a way that will maintain or enhance the future potential yield of the crop

Grain and forage crops are often best for the transition years since they cost less to establish and generally have lower demands for nutrients and pest management. Many are also soil improving crops (legumes – nitrogen; grasses – fine roots for soil structure, etc).

Cover crops are important during the transition phase to help improve soil organic matter and structure, as well as using legumes to improve the nitrogen content of the soil. Match cover crops to the demands of the crops that follow as well as to the cropping window of the previous or current crop. A common goal is to keep the soil covered with green vegetation for as much as of the growing season possible including over the winter.

Use fallow periods (no planted crop) sparingly to minimize soil degradation. A fallow period is when tillage is repeated at regular intervals (every one to two weeks for one to two months). This is usually used to kill perennial weeds such as quackgrass or forage grasses remaining after a hay crop. It can also be used in a false seedbed approach to kill annual weeds prior to planting mid to late spring crops such as beans or some vegetable crops.

4. Inputs (seed, nutrients and pest management)

All inputs used within 36 months of the expected harvest of the organic crops must comply with the requirements of the organic standards and specifically the Permitted Substances List (PSL). The PSL is a list of generic substances and is part of the Canadian Organic Standards. Input products used on the farm must only contain these ingredients or substances including inerts and formulants. Certification bodies approve all products that can be used according to whether they meet the requirements of the organic standards for your farm situation.

If the input (seed, feed, manure, straw, etc) has been produced as an organic product it is usually acceptable on the organic or transitioning farm.

In conventional farming crop producers use numerous tools (fertilizers, pesticides, genetically modified organisms, etc) for managing crop needs. Organic producers chose not to use most of these ‘chemical’ tools. The usual reaction is that if the organic grower cannot use ‘Product X’, what can be used instead? Organic is not a substitution of one set of products with another. The organic farm system manages pests and crop issues with a broad spectrum of technologies including the following:

- cultural (crop rotation, planting date, row/plant spacing, etc)
- biological (genetic resistance, biodiversity, beneficial organisms, etc)
- mechanical (tillage, barriers/row covers, traps, mulch, etc)
- time management (essential to be able to complete practices in a timely manner)
- greater understanding of the biology of the pests and nutritional needs of the crop
- approved off-farm inputs such as nutrients and pest management products can be used only when other approaches are inadequate.

Seed

Organic seed and planting stock must be used if available. If organic seed and planting stock is not commercially available, the following options (in order of preference) may be permitted with documentation that organic seed is not available:

- seed grown only with substances in accordance with organic standards (can be from transition fields)
- non-organic untreated seed and planting stock
- non-organic perennial planting stocks may be used provided such plants have been maintained in accordance with the organic standards for at least one year prior to harvest of the organic products

Nutrients

Animal manures and related composts are the most common source of nutrients on the organic farm. The Canadian Organic Standards contain several references detailing manure management requirements on the organic farm.

If the farm does not have adequate manure, and there are no known sources of manure from other organic farms in the area, then manure or compost from non-organic farms can be brought onto the farm. This manure however must not be from livestock operations where animals are caged and cannot turn 360°, or from operations where animals are kept permanently in the dark. Records must also be kept on the manure source, type, amount and farm details as outlined above.

Non-composted manure must be incorporated into the soil at least 90 days before the harvesting of crops for human consumption that do not come into contact with soil or at least 120 days before the harvesting of crops having an edible part that is directly in contact with the surface of the soil or with soil particles. Sewage sludge and nutrients from most sources of industrial or municipal wastes are prohibited.

Legume cover crops can also add nitrogen and help build soil organic matter and the nutrient cycling and storage capacity of the soil. Other nutrients and fertilizer products being obtained for use on the organic farm must adhere to the requirements of the Permitted Substances List.

Test soils regularly (once every two to three years) to monitor nutrient levels, document deficiencies and the need for nutrients, as well as to watch for longer term trends in soil fertility maintenance.

Pest Management (weeds, insects, diseases, rodents, etc)

Weeds are the most serious pest problem on most organic farms. Most weeds must be managed early in the life of the crop. For annual grain and oilseed crops start mechanical weed control a few days after planting using rotary hoe or weeder/tine harrow at regular intervals. Vegetables require row cultivation and manual hoeing depending on the crop. Good crop rotations are essential for reducing weed infestations. Some weeds have a greater impact on crops than others and a thorough knowledge of weed identification, biology, life cycle, and control options will be of great assistance in determining appropriate weed management strategies.

Insects and diseases are often crop specific. Crop rotations help reduce many insects and diseases. Select varieties of the crops that are known to be pest resistant to reduce the impact of the pests. Where possible encourage beneficial insects or other organisms to help control pest outbreaks. Inspect crops frequently to identify pest populations. Be aware of registered biopesticides that are approved by the certification body for application to suppress pests in the crop when necessary. In some cases planting dates or plant populations can be altered to reduce the impacts of pests.

5. Organic Certification

Your decision to certify will depend on marketing plans and the crops you plan to produce. Many organic growers sell their crops to buyers or processors that require certification to the Canadian Organic Products Regulations (and standards). Currently in Ontario, if all sales are to local buyers, certification is not required unless the grower plans to use the federal organic logo (see Figure 1). When selling products intended for export, growers must follow the production requirements of the organic standards of the importing country and may need to be certified.



Figure 1. Canadian Organic Logo courtesy of Canadian Food Inspection Agency

When to get certified will depend on the harvest date for your first certified organic crop. Apply to the certification body at least 15 months prior to the first organic harvest. Your organic plan is required as part of the application. Certification is annual. Fees vary but range from \$500 to \$1,400 per farm per year.

Contact the certification body early. Ask for details on their program and fees to help determine which certification body is best for your certification needs. For complete details see at www.ontario.ca/organic.

6. Financial Implications

One of the most important concerns for growers are the financial aspects of transition to organic production. This is a major issue that needs to be understood before the transition begins. Determine income needs and expectations during the transition and in the long term.

Net income is a function of “yield, price and expenses”. Yield is usually lower during transition. Revenue will also decline if the decision is made to produce lower value crops. While organic crops can normally be sold at a premium price, there are usually no price premiums available during the transition phase. Some costs of production will decline on the organic farm as fewer fertilizer and pesticide inputs are required. Labour and equipment costs usually increase. Some surveys indicate labour demands increase up to 35 per cent on organic farms, but this depends on the crop produced. Family, friends and volunteers can help reduce labour costs.

In some cases growers have transitioned from non-organic farms and reduced the overall size of their operation to manage the demands of organic production and increase the net returns per acre. Overall, most crops have similar annual total costs of production in organic as in non-organic production systems. When looking at the costs of production, consider the whole cost of the system over several years and not just the costs related specifically to that crop during a given year. (For example, a cover crop last year will have benefits to this year’s crop).

Other costs of transition may include expenses related to conducting research and learn more about organic farming. This may include formal courses, travel, books, conferences, communication (talking to existing organic farmers, buyers, etc.). One of the largest costs during transition is the purchase of new equipment for field operations for tillage, mechanical weeding or equipment for the production of new crops. Other major expenses may include building renovations or an expansion to accommodate enhanced storage, handling, processing or livestock needs. A recent survey estimated that transition costs were estimated at over \$50,000 per farm, but this will vary depending on the length of the transition period (which may be phased in over several years), the current products being produced and the available buildings and equipment.

SUMMARY

The motivations for the transition to organic are varied. Requirements are set according to Canadian Organic Standards. Your path to organic will be determined by the unique attributes of your farm and by the products you wish to grow and market. There will be challenges as you meet these new opportunities. A willingness to learn, to adapt, to network, and to persevere will be valuable assets on your road to success.

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