

**ORGANIC FARMING IN CANADA: AN OVERVIEW**

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## ORGANIC FARMING IN CANADA: AN OVERVIEW

### INTRODUCTION

For a long time, organic farming in Canada was limited to small groups of producers, processors and consumers; however, substantial growth has occurred over the past few years. The recent interest in organic products has been heightened by consumers' increased expectations regarding their food and the environment, especially following a number of crises or controversies involving conventional agriculture – mad cow disease, genetically modified organisms (GMOs), etc.

In 1998, the Canadian Organic Advisory Board (COAB) announced that the organic food market represented approximately 1% of the total retail food market and estimated that sales were increasing by between 15% and 25% annually.<sup>(1)</sup> The COAB also reported that Canadian production was worth almost \$1 billion per year.

After a brief review of the concept of organic farming and its status in Canada, this paper describes the various government measures that affect this sector of the agricultural industry and discusses organic farming as a model for sustainable agriculture.

### CANADIAN ORGANIC FARMING: DEFINITION AND TRENDS

#### A. Origins

The origins of organic farming can be found in two sources. The first is “biodynamics,” the principles of which were enunciated by Rudolf Steiner, an Austrian thinker, in the 1920s. He claimed that this form of agriculture, which draws upon “cosmic and telluric forces,” forms part of a broader concept of human nature and living things. In 1928, the biodynamic movement was the first to establish a brand name, “Demeter,” certifying the origin

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(1) Heather Archibald, “Organic Farming: The Trend is Growing!” *Canadian Agriculture at a Glance*, Statistics Canada Catalogue No. 96-325-XPB, 1999.

of its products. The second source is the British Soil Association's "organic agriculture" (based on the 1940 writings of Sir Albert Howard), which advocates composting and a return to an independent, yeoman-farmer-based agriculture. Both movements put the emphasis on soil life, and thus on fertilization, and include a strong ideological component.

## **B. Definition**

Organic farming is based on a simple principle, namely, strict respect for the links and natural balances among soil, plants and animals (animals nourish the soil, which nourishes plants). To this is added the constraint of a prohibition on synthetic chemicals.<sup>(2)</sup>

From this principle and constraint follow a number of agricultural practices that distinguish organic from conventional farming, including:

- a prohibition on chemical fertilizers and pesticides, plant and animal growth regulators, hormones, antibiotics, preservatives, etc.;
- a prohibition on GMOs;
- a prohibition on soil-less culture (which does not preclude greenhouse growing);
- the requirement, in the case of animal production, to allow free-range practices, to use organically produced feed, to limit animal density in buildings, etc.; and
- the requirement to observe conversion periods in crop production before any produce can be marketed as "organic," etc.

Supporters of organic farming add a social and ethical aspect to the definition of organic farming, because they see in it a means of preserving a human dimension in agriculture, one that is respectful of the environment and in touch with the consumer.

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(2) Alain Riquois, "L'agriculture biologique : un 'prototype' au service de l'agriculture conventionnelle pour un développement durable" ["Organic farming: a 'prototype' for use in conventional agriculture for sustainable development"], *Aménagement et nature*, No. 132, March 1999, pp. 49-61.

### **C. Organic Farming Standards**

Because it is virtually impossible to distinguish a product produced by organic farming from one produced by conventional farming, organic farms must be certified by appropriate regulatory bodies. Certification allows the producer to sell his or her products under the designation “organic.” This provides the consumer with a guarantee that the product purchased is genuinely the result of organic farming. The certification body validates the farm on the basis of standards that determine the technical requirements, e.g., which products may be used for fertilization and processing, and what the conversion periods are.

However, the proliferation of standards can be a source of confusion for the consumer. In 1980, the Organic Food Production Association of North America listed approximately 50 organic standards drawn up by various certification bodies.<sup>(3)</sup> In 2000, Canada had more than 40 such certification bodies. Although the various standards have more shared than divergent points, the industry in various countries is seeking to make these standards uniform, out of a concern to preserve the integrity of the “organic” label. In Canada, the provinces of Quebec and British Columbia have each established minimum provincial standards, as well as a procedure for accrediting organic farming certification bodies. In June 1999, the Government of Canada introduced a national standard for organic farming, which represents a first step toward the adoption of Canada-wide standards for organic farming (see the section “Government Measures to Promote Organic Farming,” below).

### **D. Organic Farming Trends in Canada**

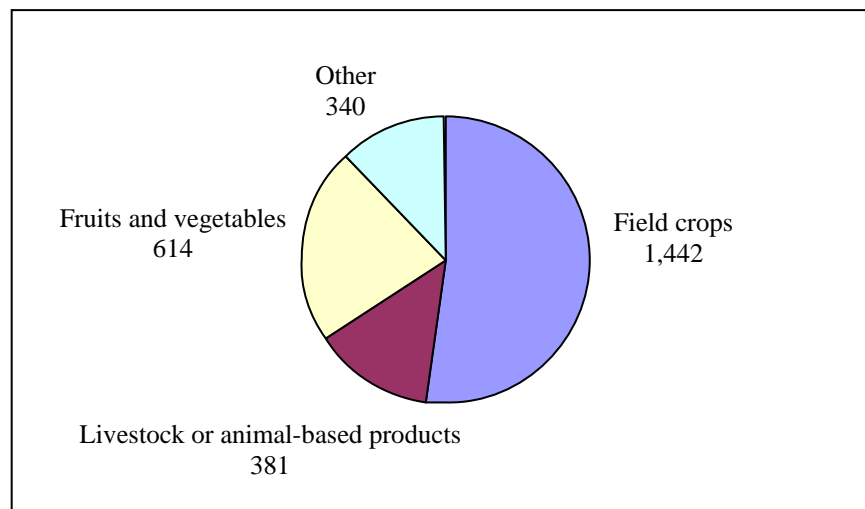
The organic farming movement in Canada emerged in the 1950s, but significant development occurred only in the 1970s. During that decade, organic farmers formed organizations in six provinces. In 1974, McGill University (in Montréal) set up the Ecological Agriculture Projects program, which later became an information clearinghouse for the whole of Canada. Certification bodies were developed in the 1980s, and various levels of government increased their involvement in research and development in this sector of the farming industry.

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(3) Hélène Laberge, “Agriculture biologique et bio-dynamique” [“Organic and biodynamic agriculture”], *L’agora*, April 1996.

Since 2000, the number of certified organic producers in Canada has plateaued, after nearly tripling between 1990 and 2000. In 2003, the country had 3,100 organic producers – 1.3% of Canada’s farmers – farming just over 390,000 hectares. Saskatchewan is home to the largest number of organic farmers (34%). Though organic farming is commonly thought of as primarily market gardening, it is actually field crops such as buckwheat, barley and wheat that currently dominate in Canada.

**Figure 1: Certified Organic Farms in Canada, 2001**



Source: Statistics Canada, Census of Agriculture, 2001.

Canadian consumption of organic products remains modest, about 1-2% of total food consumption, but it is growing steadily at a rate of 20% a year – an unusual phenomenon in the food industry, where growth usually averages 2-3% a year. However, the increasing demand for organic products is being met primarily by increased imports, mainly from the United States. Canadian organic products account for about 90% of the organic dairy products consumed in this country, 22% of organic fruits and vegetables, and 10% of organic grocery items. Some crops are intended primarily for export; for example, exports of organic Canadian wheat quintupled between 1992 and 2003.

## GOVERNMENT MEASURES TO PROMOTE ORGANIC FARMING

### A. A Specific Organic Farming Policy

Because organic farming is a “sector within a sector,” it is affected by most of the federal programs and regulations put in place for Canada’s agricultural sector. For example, the Canadian Agricultural Income Stabilization (CAIS) and crop insurance programs are available to both conventional and organic farmers. But there is no federal policy specifically directed at the organic farming industry.

Some countries, including the European Union, do have policies to promote organic farming, and usually offer financial incentives to encourage a changeover to organic farming. Consequently, the amount of agricultural land in Europe converted to organic farming has increased, as has the volume of certified organic products sent to foreign markets.

In its report entitled *Pesticides – Making the Right Choice for the Protection of Health and the Environment*, the House of Commons Standing Committee on Environment and Sustainable Development recommended in 2000 that

the government develop an organic agriculture policy for the transition from pesticide-dependent farming to organic farming. This policy should include tax incentives, an interim support program during the transition period, technical support for farmers, the development of post-secondary organic farming programs and enhanced funding for research and development (R&D) in organic agriculture.<sup>(4)</sup>

In its response, the government recognized the importance of this sector and maintained that it was supporting its expansion through existing and future research and market development programs and services. Virtually all the programs directed at agriculture in general affect organic farming, because the government has adopted a “decoupling” approach to support programs and production-related decisions. In this way it does not favour certain agricultural practices over others, regardless of whether they are conventional, organic or other. It should be noted, however, that in the calculation of payments to farmers, traditional programs (e.g., crop insurance programs) are based on prices lower than those applicable to organic production, or on

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(4) House of Commons Standing Committee on Environment and Sustainable Development, First Report, *Pesticides – Making the Right Choice for the Protection of Health and the Environment*, 2<sup>nd</sup> Session, 36<sup>th</sup> Parliament, May 2000.



income (e.g., the CAIS), which is often lower in organic production. This puts organic farmers at a disadvantage.

## **B. A National Standard**

The adoption of a Canadian organic farming standard constituted the first real federal government intervention directed specifically to this sector of the farming industry. This standard, approved in June 1999 by the Standards Council of Canada, was developed jointly by the Canadian General Standards Board and the COAB, which was representing the sector's interests.

The standard is voluntary, however, and does not constitute a minimum for organic production in Canada.<sup>(5)</sup> This absence of regulatory enforcement of the Canadian standard on organic production poses two major problems:

- a lack of uniformity in the designation “organic” in Canada;
- a risk of losing access to certain export markets for Canadian organic products.

First of all, the consumer is confused by the multitude of designations all using the term “organic.” In Canada, there are over 25 different logos identifying organic products. Nor is there a clear definition of what constitutes an organic product. For example, the current system enables certification body Y to define its own standard of organic production and to certify compliant farms, which can then sell their products under the label “certified organic by Y.” There is no guarantee that the product meets the voluntary Canadian standard, nor is there any uniformity in the designation “organic” in Canada, since certification bodies are free to define what they consider an organic farming technique.

This lack of uniformity could be an obstacle for enterprises that wish to export organic products. As of 31 December 2005, the European Union (EU) will accept only those products that come from countries with a regulatory standard equivalent to that of the EU. Many people think the EU will never grant equivalency to the Canadian voluntary standard. A number

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(5) Quebec has set up a regulatory framework for organic farming. It includes a minimum standard and a system for accrediting certification bodies. Any product sold as organic must come from a farm certified by a government-approved body (or come from a country with a system deemed to be equivalent). The certification body makes sure that the farming practices used are identical to, or more rigorous than, the practices set down in the organic farming standard.

of Canadian certification bodies and Canadian standards have been approved in the United States under the U.S. National Organic Program. Yet, even though the American program is recognized as equivalent to the European system, Canadian exporters may not be able to benefit from this equivalency and so may not be able to sell their products on the European market.

As a result, the industry wants the federal government to regulate enforcement of the Canadian organic farming standard. Such an initiative would make it possible to have a single definition of what constitutes an organic product in Canada, and to ensure that all products sold as organic in this country meet that definition.

From January to April 2004, Agriculture and Agri-Food Canada and the Canadian Food Inspection Agency held consultations to assess draft regulations that would make it possible to enforce the Canadian organic farming standard. Originally approved in 1999, the standard is regularly revised, and in August 2004 the Canadian General Standards Board's Committee on Organic Agriculture agreed on an update.

Although the draft regulations are being finalized, many industry stakeholders think that Canada will not be able to get its name on the list of countries able to export to the EU before the 31 December 2005 deadline. Negotiations on recognition of equivalency between countries can take time, and Canada cannot even submit its application until the regulations are in place.

## **A MODEL FOR SUSTAINABLE AGRICULTURE?**

Because conventional agriculture has been marked by several crises or controversies, organic farming has often been advocated by some as a desirable model for sustainable agriculture. This section presents a few thoughts on the subject.

### **A. Sustainable Agriculture**

It is now recognized that organic farming has a generally positive *environmental* impact. Generalizations are risky, however, because the issue is more complex than it may appear. First of all, organic farming differs from conventional farming in that it releases a smaller volume of pollutants into the environment. Some studies also show that fields where

organic farming is practised have greater biological diversity,<sup>(6)</sup> that organic farming uses less energy per surface unit or performance unit than conventional agriculture,<sup>(7)</sup> and that it improves the organic and physical fertility of the soil<sup>(8)</sup> (although certain conventional practices achieve similar results). The scientific literature is less positive, however, when it comes to greenhouse gases. For example, organic farming produces less carbon dioxide than conventional farming, but in the case of dairy herds, the methane produced per kilogram of milk produced is higher than on conventional farms.<sup>(9)</sup> In theory, organic farming practices limit the release into the environment of nitrates and phosphates that may be found in surface water or groundwater, but the shortage of data sometimes makes it impossible to draw definitive conclusions.<sup>(10)</sup> Whatever the method of production, the quantities of fertilizer spread may exceed the needs of the soil and the crops.<sup>(11)</sup>

*Economically*, the prohibition on synthetic fertilizers and pesticides results in decreased yields, with some farmers reporting reductions of between 30% and 50% during the initial stages of conversion from conventional to organic farming.<sup>(12)</sup> In addition, organic farming is more labour-intensive than conventional agriculture, and so labour costs tend to be higher. On the other hand, profitability is generally better, thanks to the higher selling price of these products in comparison with conventionally produced products. Consumers are prepared to pay between 10% and 50% more for organic products.<sup>(13)</sup> The retail price of organic products remains relatively high, but recent market trends, with more large-scale distribution, could drive down the prices paid to producers.<sup>(14)</sup> The premiums received by producers vary a great deal depending on the product and the marketing method. For example, some fruits and vegetables

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(6) Andy Coughlin, "Going Back to Nature Down on the Farm," *New Scientist*, 3 June 2000.

(7) Colin Macilwain, "Organic FAQs," *Nature*, Vol. 428, No. 6985, April 2004.

(8) M. Shepherd *et al.*, "An Assessment of the Environmental Impacts of Organic Farming," DEFRA-funded project OF0405, Ministry of the Environment, Food and Rural Affairs, United Kingdom, 2003.

(9) *Ibid.*

(10) *Ibid.*

(11) Organisation for Economic Co-operation and Development (OECD), *Organic Agriculture: Sustainability, Markets and Policies*, Report of the OECD workshop on organic agriculture (September 2002), Washington, D.C., 2003.

(12) Archibald (1999).

(13) *Ibid.*

(14) OECD (2003).

are sold at the farm gate for no more than conventional products,<sup>(15)</sup> while the premium for grains can be 200-300%.<sup>(16)</sup>

There is relatively little understanding of the advantages *to society* of organic farming, and comparisons with conventional agriculture are difficult to make. Advocates of organic farming argue that it promotes certain aspects of “social justice” by heightening recognition of the essential role played by farmers, and of their working conditions and their contribution within rural communities.<sup>(17)</sup> They also claim that organic farming preserves a human dimension in agriculture and restores value to the craft of farming. By depriving themselves of the “safety net” provided by routine treatments, organic farmers must be constantly vigilant, methodically seek alternative solutions, and try to streamline their operations. Thus, in the Netherlands, the most successful dairy farmers are most likely to convert to organic farming, because this represents a new challenge.<sup>(18)</sup>

## **B. Healthier Food?**

Many surveys show that consumers buy organic food products because they believe them to be better for their health. Not surprisingly, the organic products industry supports this argument and asserts that organic products contain fewer harmful elements (such as pesticides) and more healthful elements (such as vitamins and minerals).

Although beneficial to the environment, organic farming methods are not guaranteed to produce healthier foods than those produced by conventional farming methods. Organic farming standards do not include an obligation to produce higher-quality products – which does not mean that organic farmers are not capable of achieving such results. The label “organic” does not provide any guarantee of a product’s quality and nutritional value. Furthermore, organic farming is subject to the same rules as conventional farming with regard to hygiene and health safety. A report by the U.K. House of Commons Agriculture Committee, tabled in January 2001, noted that there is currently no proof that food produced through organic

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(15) Statistics Canada, “Organic fruit and vegetable production: do farmers get a premium price?” *VISTA on the Agri-Food Industry and the Farm Community*, Statistics Canada Catalogue No. 21-004-XIF, 2004.

(16) Agriculture and Agri-Food Canada, “Organic Grains and Oilseeds,” *The Bi-Weekly Bulletin*, Vol. 13, No. 5, March 2000.

(17) OECD (2003).

(18) Riquois (1999), pp. 49-61.

farming is healthier. The report stated that increased research must be done in this sector to produce scientific proof for the claims made.<sup>(19)</sup>

Recent reviews of the scientific literature tend to emphasize the weakness of studies in this area and their methodological shortcomings.<sup>(20)</sup> Some studies have found a difference between organic and conventional products with regard to certain nutrients such as vitamins and minerals, but it would seem that this chemical and nutritional difference is not nutritionally significant given all the recommended elements of a good diet.<sup>(21)</sup>

As far as health is concerned, the absence – by definition – of all synthetic chemicals and GMOs obviously excludes the risk or uncertainty their presence might cause, even if the risk or uncertainty is sometimes low in the case of conventional production. However, organic farms cannot operate in isolation, and may be located next door to farms that do use pesticides. Since certain common agricultural inputs can remain in the soil for decades, organic farming cannot guarantee a total absence of contaminants. It does seem, however, that organic products contain lower pesticide residues than conventional products (in which, nevertheless, concentrations are below authorized thresholds).<sup>(22)</sup> Equally, certain organic farming practices such as the absence of fungicides, and the use of manure as the main fertilizer, constitute vulnerability factors in terms of health risk, though here again the data are not sufficient for comparisons with conventional agriculture.

## CONCLUSION

Despite a strong growth in the market for organic products in Canada, the number of organic farms has been stagnant for several years. A number of reasons may explain this phenomenon: the difficulty farmers experience trying to learn and adapt to new, more labour-intensive techniques; the lack of services designed to make new techniques comprehensible and accessible; uncertainty over premiums; lower yields; and the absence of regulations that would

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(19) U.K. House of Commons Agriculture Committee, Second Report, *Organic Farming*, January 2001.

(20) Jim Giles, “Organic FAQs,” *Nature*, Vol. 428, No. 6985, April 2004.

(21) Agence française de sécurité sanitaire des aliments, “Évaluation nutritionnelle et sanitaire des aliments issus de l’agriculture biologique,” July 2003.

(22) *Ibid.*

make it possible to standardize the designation “organic” in Canada and to ensure long-term access to export markets.

Many virtues are attributed to organic farming, including that of being the model for sustainable agriculture, which protects the environment while yielding healthy and more nutritious foods – although the latter claim remains to be proved. Accordingly, some countries are adopting policies to promote a substantial conversion from conventional to organic farming.

It is difficult to say that a phasing out of conventional farming and a wholesale conversion to organic farming could guarantee the same level of income for farmers and a stable and adequate food supply. To many, organic farming is a niche that must remain a niche if it is to retain its economic advantage. Moreover, it is a more demanding form of agriculture as far as running a farm operation is concerned, one that tends to attract only the technically more proficient. This is the basis for the argument that some people have put forward: that it is the prototype of a more rational approach to agriculture, one that can develop options that are compatible with sustainable development.