

## ANALYSIS REPORT

# Benchmarking of support measures for organic farming in Quebec to other jurisdictions

March 8, 2021

*This report was translated by Agriculture and Agri-Food Canada from the original French version entitled: « Analyse comparative des mesures de soutien à l'agriculture biologique du Québec avec celles d'autres juridictions ». The UPA assumes no responsibility for any errors or omissions related to the translation of this report. In the event of a discrepancy between the French and English versions of this report, the French version shall take precedence.*



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*Note: for all the converted amounts to be followed in this study, the conversion was carried out at the average annual exchange rate in effect at the period considered with the help of the Bank of Canada's online currency converter: <https://www.bankofcanada.ca/rates/exchange/currency-converter/>.*

## L'Union des producteurs agricoles

Throughout its history, the Union des producteurs agricoles (UPA) has worked with conviction on many achievements: agricultural credit, agricultural and forestry cooperatives, rural electrification, educational development in the countryside, collective marketing, recognition of the agricultural profession, protection of agricultural land, establishment of sustainable agriculture, and even development of the Quebec press with its newspaper *La Terre de chez nous*, etc. Since its founding, the UPA has therefore contributed to the development and advancement of Quebec.

The action of the UPA and its members is felt firstly in the heart of the rural fabric of Quebec. It shapes the face of the regions geographically, community and economically. Firmly rooted in their territory, the 41,097 Quebec farmers operate 27,951 agricultural businesses, mostly family-owned, and employ more than 55,900 people. Each year, they invest \$645 million in the regional economy of Quebec.

In 2019, the Quebec agricultural sector generated \$9.1 billion in revenue, making it the largest primary sector activity in Quebec and a leading economic player, particularly in our rural communities.

The 30,000 forest producers, for their part, harvest woody material for an annual value of more than \$350 million, generating a turnover of \$2.5 billion from the processing of their wood.

The action of the UPA also extends to other continents through its interventions in countries of the Organization for Economic Cooperation and Development to defend the principle of agricultural exception in trade agreements, or in Africa to develop collective marketing through UPA Développement international. Maximizing all the lifeblood of Quebec's countryside, all agricultural and forestry producers have made Quebec's agriculture and private forests known to Canada and to the whole world.

Today, the UPA brings together 12 regional federations and 25 specialized groups. It relies on the direct engagement of more than 2,000 producers as directors.

For the UPA, BEING ABLE TO FEED means nurturing the passion that drives all producers; it means growing the ambition to offer very high-quality products to all. BEING ABLE TO GROW means uniting forces resolutely turned towards the future. **POUVOIR NOURRIR, POUVOIR GRANDIR**—the power to feed, the power to grow—that's our group's promise.

## Foreword and caution

This study was carried out by Clémentine Gombart, who holds a bachelor's degree in agri-economics, as part of an internship carried out within the Agricultural Research and Policy Department (DREPA) of the UPA in the summer of 2019 under the supervision the coordinator for the development of organic farming, Jérôme-Antoine Brunelle, and Marie-Ève Gaboury-Bonhomme, professor of public policy analysis at the Faculty of Agriculture and Food Sciences of Université Laval. Certain information was subsequently updated in 2020.

By publishing this analysis report, the UPA hopes to contribute to discussions surrounding government support for Quebec agriculture from a sustainable development perspective. The information contained herein is provided for informational purposes only. The UPA assumes no responsibility for any errors or omissions that may affect this report and assumes no responsibility for any injury, loss or claim that may arise as a result of viewing or using this information. The reader is therefore urged to exercise caution in using the information contained in this report.

The opinions expressed in this publication are those of the authors alone and do not necessarily represent the positions of all members of the UPA.

## Executive Summary

Organic production is a holistic management system that aims to maximize productivity and promote the health of various agri-ecosystem communities, including soil organisms, plants, animals and humans. The primary goal of organic production is to develop sustainable and environmentally friendly farms<sup>1</sup>. The International Federation of Organic Agriculture Movements establishes that organic agriculture is based on the principles of health, ecology, fairness and care<sup>2</sup>.

By moving from an agriculture that could be considered niche to a production system that must meet an estimated demand of CA \$113 billion in 2017<sup>3</sup>, organic farming is betting on being able to meet the growth in demand. This metamorphosis brings innovation and jobs and contributes to the development of the regions. However, these profound changes also present challenges, the main one of which is to achieve a balance between supply and demand by structuring the sector in terms of production, processing and distribution, while maintaining the added value of organic products.

Since organic farming meets many societal expectations in terms of the environment, animal welfare, biodiversity and rural development, support for it is part of the strategic plans of many countries in order to meet the challenges of sustainable development facing all regions of the world. To that end, the Quebec Organic Sector Collective Development Strategy<sup>4</sup> set itself the objective of promoting the involvement of governments by encouraging them to provide support for the creation, conversion and maintenance of farm businesses under organic management.

As this Strategy expired in 2018, it seems important to compare Quebec's organic farming support programs with other regions in the world. This analysis report therefore follows up on the analysis report on organic farming support policies, published in 2009, by ÉcoRessources Consultants<sup>5</sup> on behalf of the Federation of Organic Agriculture of Quebec (FABQ). The benchmarking of support for organic farming in Quebec and in other jurisdictions has been a subject that has not been dealt with much since.

In addition, the recent publication of the 2020-2025<sup>6</sup> Quebec Organic Sector Development Plan, developed based on the results of extensive consultation conducted with several partners in the sector and followed by numerous brainstorming meetings in order to identify the priority issues, aims to ensure the sustainability and growth of the businesses (Area 2). It proposes the use of a collaborative approach to establish an "integrated government policy" aimed at supporting the transition of new businesses to organic production, ensuring their sustainability and supporting the growth of existing organic businesses. The idea would be to include current government

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<sup>1</sup> Canadian General Standards Board, 2015.

<sup>2</sup> International Federation of Organic Agriculture Movements (IFOAM – Organics International), 2005.

<sup>3</sup> *Idem*, 2018.

<sup>4</sup> Filière biologique du Québec, 2014.

<sup>5</sup> ÉcoRessources Consultants for the Federation of Organic Agriculture of Quebec, 2009.

<sup>6</sup> Filière biologique du Québec, 2021.

measures that have already proven their worth and to adapt all the income security measures offered to businesses according to production costs and the commercial value of the organic products. To this end, the 2020-2025 Quebec Organic Sector Development Plan proposes to analyze the effectiveness of the measures used since 2015 in Quebec as well as the strategies, policies and measures in place in other leading countries in Organic Agriculture.<sup>7</sup>

Many approaches to support organic farming exist, depending on the jurisdiction. However, the diversity of programs tends to create unequal situations between producers in an era of market globalization. There is a trend towards direct support for the conversion, maintenance and creation of organic businesses in Europe. In North America, support is more focused on investment assistance, with less emphasis on maintaining acreage. The main criticism of this type of support is that it can lead to over-indebtedness of farms.

Finally, in view of the analyses carried out in this study, it seems that the divide between organic and conventional management has been overcome. The support should tend to be generalized in order to compensate farmers for the environmental services rendered and the resilience of their businesses, and no longer only for checking certain boxes in a specification.

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<sup>7</sup> *Idem*, 2020.

# Introduction

The FAO/WHO Commission, created by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO), establishes in its Codex Alimentarius that organic production systems “are based on specific and precise standards of production which aim at achieving optimal agroecosystems which are socially, ecologically and economically sustainable<sup>8</sup>.” In many cases, these systems are the result of the efforts of producers concerned with developing a holistic mode of production. For several years now, organic farming has experienced an explosion in popularity driven by ever-greater demand for products that meet societal expectations, on a global scale. The growth in demand implies an acceleration of the conversion to organic agriculture, which brings innovation and jobs and contributes to the development of rural areas. This is evidenced by the evolution of the global areas under organic management, which increased from 35 million hectares in 2008 to nearly 70 million hectares in 2017<sup>9</sup>. The current challenge is to achieve a balance between supply and demand by structuring the sector in terms of production, processing and distribution, while maintaining the added value of organic products by maintaining rigorous standards.

By its fundamental principles, organic farming is a means of preserving the environment, ensuring animal welfare standards, and promoting biodiversity and rural development. Support for this method of agriculture is therefore part of the strategic plans of many countries in order to meet the challenges of sustainable development facing all regions of the world. In Quebec, the 2018-2025 Bio-Food Policy sets the objective of doubling the area under organic production to reach 98,000 ha in 2025<sup>10</sup>. In 2019, this objective was already achieved; the total area under certified organic crops and pastures amounts to 98,407 ha in Quebec<sup>11</sup>.

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The 2014-2018 Quebec Organic Sector Collective Development Strategy was created to encourage governments to provide support for the creation, conversion and maintenance of farm businesses under organic management<sup>12</sup>. As the Strategy has ended, it seems relevant to position the current support programs for organic farming in Quebec in relation to what other regions in the world have been implementing in recent years.

This work follows up on the benchmarking report on organic farming support policies published in 2009 by the firm ÉcoRessources Consultants<sup>13</sup>.

First, an overview is presented in order to identify the current situation of the organic sector at the global scale, then in Canada and finally in Quebec. Second, a qualitative analysis of organic farming support programs in Quebec is presented, followed by a breakdown of the measures in

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<sup>8</sup> Commission FAO/OMS, 1999.

<sup>9</sup> IFOAM Organic International. Consolidated Annual Report of IFOAM Organics international and its Action Group. Bonn, 2018.

<sup>10</sup> Keable, S. Bioclip: Organic farming in Quebec and Canada. MAPAQ, Quebec, 2018.

<sup>11</sup> Conseil des appellations réservées et des termes valorisants. Total area under crops and pastures by region for 2019. 2020.

place in other regions of the world. The categorization of the measures is based on the existing stages in the life of an organic business, namely creation (start-up), conversion (transition) and maintenance of certification. The selection of the relevant jurisdictions is based on similarities with Quebec with regard to the form of government intervention, the types of production, and the method of administering standardization and certification.

The jurisdictions selected for the comparison are Minnesota and California the US, France, Germany and Denmark in the European Union (EU), and finally, Switzerland.

It should be noted that the 2009 benchmarking of organic farming support policies included an analysis of policies and programs in the State of Vermont, but these were not retained for this analysis, as this jurisdiction has not recently released any publications on the subject. However, it is noted that the areas under organic management in Vermont have increased by 50% since 2009<sup>14</sup>. Third, an analysis is produced to compare the support that could be received for a typical farm depending on the location jurisdiction. Three business models were selected: a dairy business, a vegetable business and a field crop business. The objective of this analysis is to compare the nature and potential impact of different forms of government support for organic agriculture. Under no circumstances can the simulations presented be used as an analysis of the profitability of farm businesses under organic management.

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<sup>14</sup> Vermont Organic Farmers. 2019 Statistics on Certified Organic Agriculture in Vermont. Richmond: NOFA-VT, 2020.

# 1. Theoretical framework and methodology

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The purpose of this study is to compare the support given to organic farming businesses in Quebec with that in other jurisdictions around the world. The first part of this report is based on the qualitative analysis of data from different jurisdictions, with the aim of taking stock of the support given to the development of organic agriculture. It highlights the importance that governments place on the development of organic farming and the instruments favoured to ensure its development. It was decided to make this status report general, since the choice was made to prepare a profile of the production and market of organic foods through the analysis of reports from international organizations. The research began with the identification and analysis of reports from key organizations such as the International Federation of Organic Agriculture Movements (IFOAM – Organics International) or the international Research Institute of Organic Agriculture (FiBL). It was extended using the sources cited in these reports and supplemented by internet research to reach about 20 documents analyzed.

The second part of this document presents the measures specifically put in place to support organic farming in selected jurisdictions that have certain similarities with Quebec. Since the support approaches are different depending on the jurisdictions, several types of instruments are analyzed in order to facilitate the comparison made in the third part. The choice of Minnesota is justified by its similarity with Quebec in the types of organic farm businesses identified (business sizes and productions in question) as well as in the types of programs offered to them. California was chosen based on the fact that it was, like Quebec, a pioneer in the establishment of organic standards and the application of control and a label, even going as far as inspiring the US federal government when it established the national standard. As for Europe, the choice of Germany, Denmark, France and Switzerland seemed logical to us, because these countries have the three types of production that we wish to observe (dairy, vegetables and field crops), with farms of relatively similar sizes to those observed in Quebec. In addition, they have a long tradition of supporting organic farming. These countries can thus be sources of inspiration for the definition of new instruments in Quebec. Government organic sector development programs in each jurisdiction studied were benchmarked between 2009 and 2019, to the extent possible, when the data were available. This comparison allowed us to observe the progress of support and to update the analysis of the benchmarking of policies and strategies used in other countries to support the development of organic agriculture carried out by ÉcoRessources Consultants for the FABQ in 2009. This study was also based on a qualitative approach.

Finally, the third part deals with the benchmarking of government support received by farm businesses according to the jurisdiction in which their farm is located. Three types of production were selected: dairy, vegetables and field crops. This choice was made in order to not neglect certain support tools, since each type of production is often associated with specific assistance.

The characteristics of farms used for the comparison were supported by technical and economic documents (e.g., budgets) from the Centre de référence en agriculture et agroalimentaire du Québec (CRAAQ), supplemented by discussions with management advisors specialized in each of the commodities. The aim of this benchmarking is not to generalize results, but rather to identify Quebec's position in relation to the way in which organic farming businesses are supported and to consider a possible transfer of certain measures as well as adjustments to existing programs, which could benefit the development of organic farming in Quebec.

## 2. Organic farming, an evolving sector

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### 2.1. In the world

#### 2.1.1. Organic production

In 2017, the global area of land converted and in conversion to organic management was estimated at 69.8 million hectares, or 1.4% of cultivated areas, and there were 2.9 million organic farming businesses. The EU and Oceania have the most area under organic management, with 6.2% and 5.4% of the useful agricultural area (UAA), respectively<sup>15</sup>. The percentage is 0.7% in North America. Quebec accounts for 0.1% of the world surface under organic management, with 2.7% of the Quebec's UAA converted to organic management<sup>16</sup>.

Over the 2000–2015 period, the number of organic farming businesses in the world multiplied tenfold, and cultivated area multiplied threefold<sup>17</sup>; details by regions of the world are shown in Figure 1.

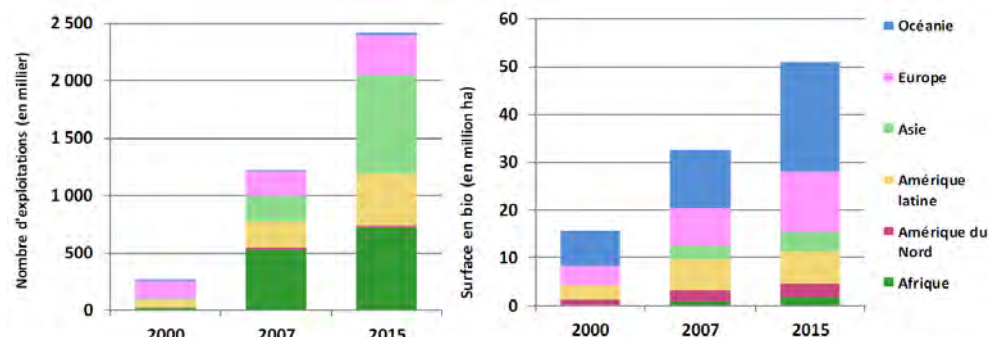
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<sup>15</sup> UAA is a statistic used in Europe to assess the land declared by companies for agricultural production, which is different from the TAA (total agricultural area).

<sup>16</sup> Portail Bio Québec. Accessible information. [www.portailbioquebec.info](http://www.portailbioquebec.info) : <https://portailbioquebec.info>. 2020.

<sup>17</sup> IFOAM Organic International. Consolidated Annual Report of IFOAM Organics international and its Action Group. Bonn, 2018.

**Figure 1: Evolution of surfaces and the number of organic farms in the world between 2000 and 2015**

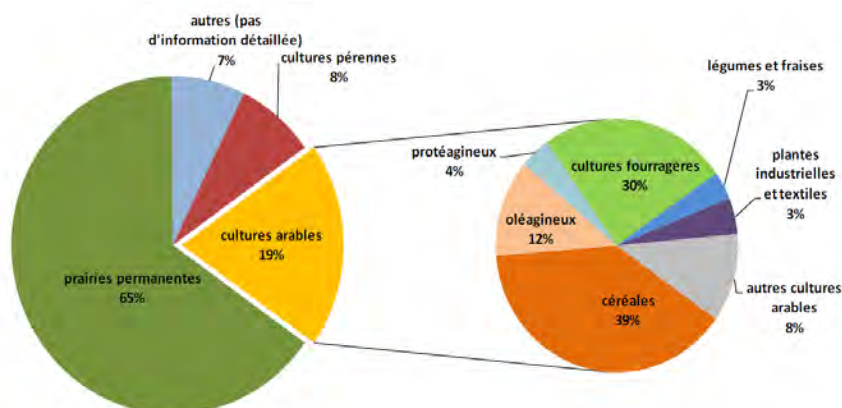


Source : Agence BIO d'après FiBL/IFOAM et différentes sources européenne

[Translation: Number of farms (thousands); Area under organic (millions of ha); Oceania, Europe, Asia, Latin America, North America, Africa; Source: Agence BIO according to FiBL/IFOAM and various European sources]

More than half of the world's area under organic cultivation is permanent grassland, and only 20% of organic cultivated area, or 10 million hectares, is under annual crops<sup>18</sup>. The detailed breakdown of crop types is shown in Figure 2.

**Figure 2: Breakdown of areas certified organic and in conversion worldwide in 2015**



Source : Agence BIO d'après FiBL/IFOAM

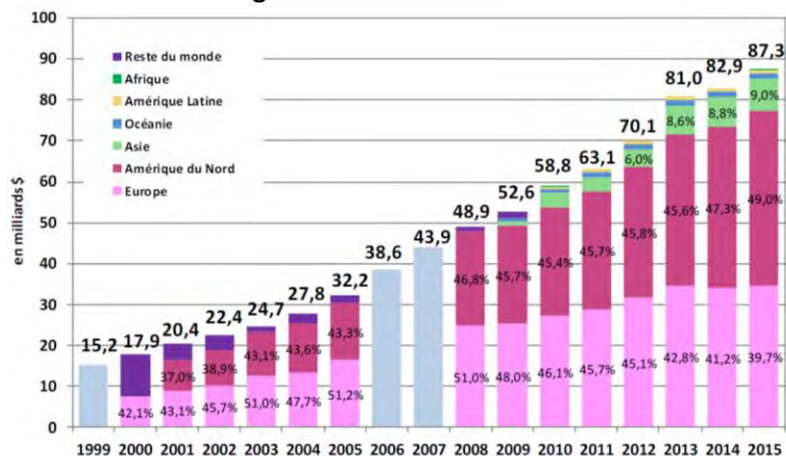
[Translation: Others (no detailed information) 7%; perennial crops 8%; Arable crops 19%; Permanent grasslands 65%; Protein crops 4%; Vegetables and strawberries 3%; Forage crops 30%; Industrial and textile plants 3%; Oilseeds 12%; Cereals 39%; Other arable crops 8%; Source: Agence BIO according to FiBL/IFOAM]

<sup>18</sup> Agence Bio. Organic in the World, Montreuil, 2017.

### 2.1.2. The organic food market

The consumption of organic products is on an upward trend. Over the 1999–2015 period, the organic food market multiplied sixfold and represented US \$90 billion (CA \$117 billion)<sup>19</sup> in 2017<sup>20</sup>, with growth of around 10% per year<sup>21</sup>, as shown Figure 3 below.

**Figure 3: Evolution of the organic food market in the world for the 1999–2015 period**



Source : Agence BIO d'après FIBL/IFOAM, Organic Monitor et différentes sources européennes et mondiales

[Translation: In billions of \$; Rest of world; Africa; Latin America; Oceania; Asia; North America; Europe; Source: Agence BIO according to FIBL/IFOAM, Organic Monitor and various European and global sources]

North America represents half of the world market with the United States (CA \$50 billion) and Canada (CA \$5.4 billion)<sup>22</sup>. For several years now, most countries around the world have established agreements to recognize the equivalence between the organic certification programs of different countries in order to facilitate trade between jurisdictions. These equivalence agreements are certainly a positive sign of the development of organic farming and synonymous with market opportunity, but they also bring competition to national markets. The competitiveness of local businesses then becomes essential, and support comparable to other jurisdictions is necessary.

### 2.1.3. Increased consideration of organic farming around the world

Governments are increasingly inclined to support the development of organic farming. Most of the assistance offered aims to increase production by supporting conversion and promoting organic labels to consumers. Assistance from national governments is often supplemented by

<sup>19</sup> For all the converted amounts to be followed in this study, the conversion was carried out at the average annual exchange rate in effect at the period considered with the help of the online converter of the Bank of Canada ([www.banqueducanada.ca/taux/taux-de-change/convertisseur-de-devises](http://www.banqueducanada.ca/taux/taux-de-change/convertisseur-de-devises)).

<sup>20</sup> USD/CAD rate: 1.3.

<sup>21</sup> IFOAM – Organics International, 2018.

<sup>22</sup> Agence Bio. Le Bio dans le monde, Montreuil, 2017.

regional subsidy programs. Table 1 below summarizes government support according to four criteria:

1. training
2. research
3. production
4. promotion

We can see that Europe and North America are the two most dynamic regions of the world on all four points assessed.

**Table 1: Summary of the types of support offered to organic production by country active in the organic production sector**

Country	% organic UAA (2015)	Promotion support	Production support	Research support	Training support
Europe	2.50	***	***	***	***
EU	6.20	X	X	X	X
Germany	6.50	X	X	X	X
Austria	21.20	X	X	X	X
Belgium	5.10	X	X	X	X
Greece	8.40		X		
The Netherlands	3.00		X	X	X
Ireland	1.60	X	X	X	
Portugal	6.50	X	X	X	X
France	4.95	X	X	X	X
Italy	12	X	X	X	X
Spain	8.20	X	X	X	X
Sweden	17.08	X	X	X	X
Denmark	6.80	X	X	X	X
Finland	9.90	X	X	X	X
Norway	4.40	X	X	X	X
Poland	3.99	X	X	X	
Hungary	2.40	X	X	X	X
Croatia	4.94		X		X
Estonia	17.00	X	X	X	X
Latvia	12.30		X		
Romania	1.89	X	X	X	X
Bulgaria	2.37	X	X	X	X
Lithuania	7.10		X	X	X
Slovakia	9.39	X	X	X	X
Slovenia	9.00		X	X	X
Czech Republic	11.40	X	X	X	X
Serbia	0.40		X	X	X
Switzerland	13.10	X	X		X
United Kingdom	3.00	X	X	X	X
Turkey	1.30	X	X	X	X
Africa	0.10	*	***	**	**
Tunisia	1.40	X	X	X	X
Morocco	0.03		X	X	
Egypt	2.30			X	
Mauritius	0.01		X		X
Kenya	0.50		X		X
Oceania	5.40	**			***
Australia	5.60	X			X
New Zealand	0.70				X
North America	0.70	***	***	***	***
United States	0.60	X	X	X	X
Canada	1.40	X	X	X	X
Mexico	0.50	X	X		X
Latin America	0.90	**	**	**	**
Brazil	0.20	X	X	X	X

Country	% organic UAA (2015)	Promotion support	Production support	Research support	Training support
Argentina	2.10			X	
Costa Rica	0.40	X	X		
Cuba	0.10			X	X
Peru	1.30	X			
Asia	0.20	**	***	*	***
China	0.30		X		X
Japan	0.20		X		
India	0.70	X	X	X	X
Vietnam	0.70	X			
Thailand	0.20	X	X	X	X
Philippines	1.90	X	X		X
South Korea	1.00		X	X	X
Laos	0.10	X	X		
Bhutan	1.30				X
Taiwan	0.80		X		X
Sri Lanka	3.50		X		X
Indonesia	0.20		X		
Saudi Arabia	0.02	X	X	X	X

Sources: Agence Bio, 2017, and FiBL, 2019.

Legend: UAA: useful agricultural area; the X indicates that the type of measure is implemented in the jurisdiction. When 0% to 30% of the countries in the area considered have adopted a type of measure, the area is marked \*. If it is 30% to 60% of the countries, the area is marked \*\*. Beyond 60% of countries, it is marked \*\*\*.

## 2.2. In Canada

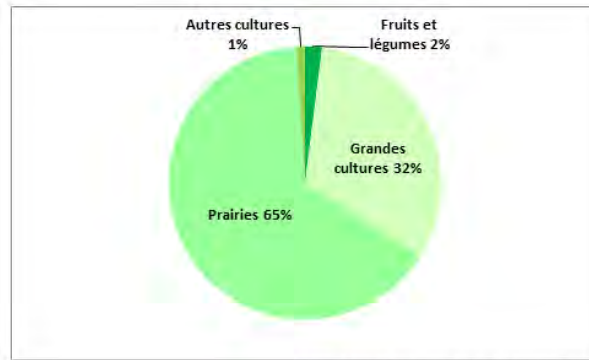
### 2.2.1. Organic production

In 2018, Canada had 7,266 companies certified organic or converting to organic<sup>23</sup>, including 5,791 farm businesses, with a production area of approximately 1.3 million hectares. About 3% of Canadian farms are under organic management. The sector is dynamic, with a 45% increase in converted surfaces over the 2011–2016 period<sup>24</sup>. Almost two-thirds of land under organic management in the country is grasslands, as detailed in Figure 4.

<sup>23</sup> Including processing and other companies.

<sup>24</sup> Canadian Organic Trade Association, 2019.

**Figure 4: Summary of types of organic farming in Canada**

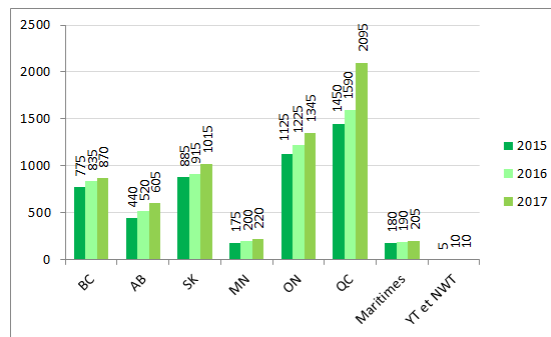


Source: Canadian Organic Trade Association, 2017

[Translation: Other crops 1%; Fruit and vegetables 2%; Field crops 32%; Grassland 65%]

Note that the number of organic farms increased by 26% between 2015 and 2017, as shown in Figure 5.

**Figure 5: Evolution of the number of organic farms in Canada, 2015–2017 period**



Source: Canadian Organic Trade Association, 2017

### 2.2.2. The organic food market

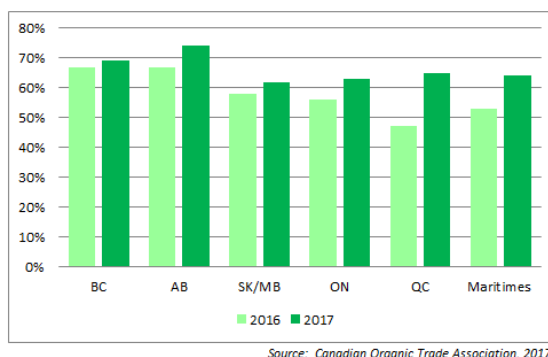
The Canadian organic market has grown by 8.7% per year since 2012 and is estimated to be worth CA \$6.4 billion in 2019, or 3.2% of the Canadian distribution market<sup>25</sup>. The increase in consumers of organic products has been most significant in the province of Quebec in recent years, with 38% of new consumers gained between 2016 and 2017<sup>26</sup>.

Quebec is not, however, the province with the largest number of consumers of organic products, as shown in Figure 6.

<sup>25</sup> Canadian Organic Trade Association, 2019.

<sup>26</sup> *Idem*, 2017.

**Figure 6: Change in the percentage of consumers of organic products by province, 2016-2017**



Consumers are turning to organic products for their quality attributes and in consideration of environmental issues and animal welfare<sup>27</sup>. However, consumer surveys show significant confusion between the terms “local,” “natural” and “organic.” One in five Canadians think that a “natural” label carries the same guarantees as an “organic” label<sup>28</sup>. Among consumers who do not buy organic products, the most frequently cited limiting factor is price. This suggests that with more competitive prices and appropriate business support, it would be possible to capture the demand for organic products and local products with a single offering. In June 2019, the announcement of CA \$390,000 in support from the federal government for the promotion of Canadian organic products internationally confirmed the desire to support the development of the sector through increased communication<sup>29</sup>.

Recognition of national standards and the “Canada Organic” logo to encourage consumer buy-in is essential, but some provinces have yet to pass regulations to officially recognize the organic designation. This makes it impossible to ensure compliance with organic claims for foods produced and sold within the province, while foods imported from other provinces or from abroad must be certified under federal regulations. To date, Manitoba, British Columbia, Nova Scotia, New Brunswick, Alberta and Quebec have adopted provincial regulations. Despite being the largest market for organic products in Canada, Ontario has yet to pass provincial regulations despite the tabling of proposals by the Organic Council of Ontario in 2017 and 2018.

<sup>27</sup> Nielsen, 2018.

<sup>28</sup> Canadian Organic Trade Association, 2018.

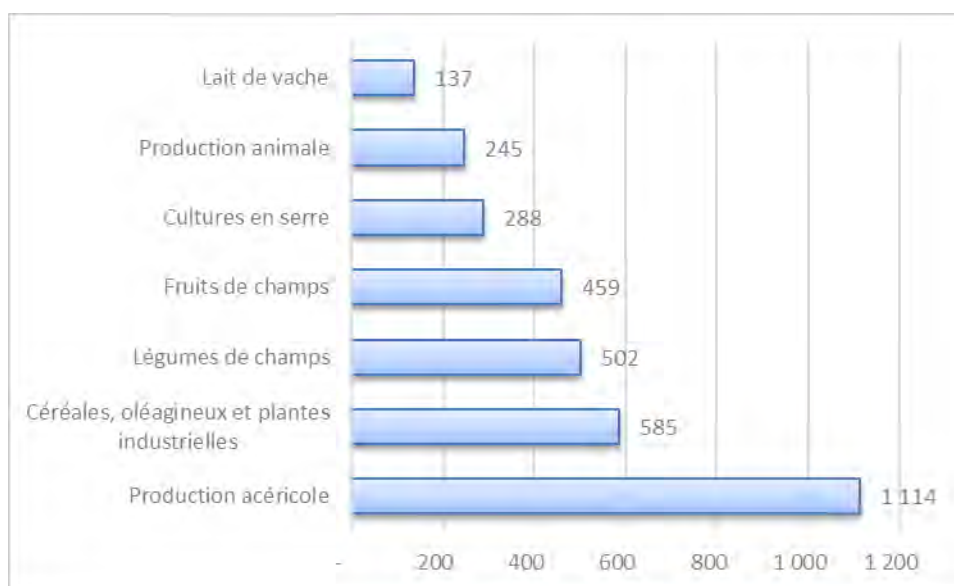
<sup>29</sup> Cision, 2019.

## 2.3. In Quebec

### 2.3.1. Organic production

In February 2021, Quebec had 2,528 farm businesses certified and in conversion, making the province the leader in organic production in Canada<sup>30</sup>. Maple syrup and field crops are the most represented productions among Quebec organic farms, as shown in Figure 7. Organic farms in Quebec made CA \$170 million in revenue in 2017<sup>31</sup>.

**Figure 7: Distribution of organic production in Quebec by type of production**



[Translation: Cow's milk; Animal production; Greenhouse crops; Field fruits; Field vegetables; Cereals, oilseeds and industrial plants; Maple syrup production]

\*The numbers shown in this figure represent data as of February 23, 2021.

Source: Portail Bio Québec, 2021, [Entreprises par production agricole à ce jour](#) [available in French only] (Consulted February 23, 2021).

### 2.3.2. The organic food market

Despite the development of production, 70% of Quebec's market for organic products is supplied by imports<sup>32</sup>. A survey by the Filière biologique du Québec (FBQ) indicates that among consumers of organic products, 20% consume these products on a daily basis and 40% on a weekly basis. They believe that organic farming plays a beneficial role not only for health, but also for the environment and the local economy. Of these, 95% are in favour of additional government support for agricultural businesses to increase their conversion rate<sup>33</sup>.

<sup>30</sup> Portail Bio Québec, 2021.

<sup>31</sup> Keable, 2018.

<sup>32</sup> Canadian Organic Trade Association, 2017.

<sup>33</sup> Filière biologique du Québec, 2017.

A survey on the confidence of Quebec consumers in food, published by the Center for Interuniversity Research and Analysis of Organizations in 2019, reveals that 91% of Quebecers consider it safe to consume food grown or produced in Quebec. 72% of consumers consider the “Aliments du Québec” logo to be trustworthy. The words “antibiotic free,” “pesticide free” and “GMO free” are considered trustworthy by more than 40% of respondents, while the organic certification logo is only considered trustworthy by 38% of those surveyed. We should add that 40% of consumers believe that the term “organic” is based on a simple statement from a company and not on a certification audit by an independent body. In addition, only 44% of consumers believe that an organic food does not contain genetically modified organisms (GMOs), and nearly one in two Quebecers think that the labelling of a food containing a GMO is mandatory<sup>34</sup>.

### 2.3.3. Control and promotion of organic products

Quebec has had its own organic certification regulations since 1997, with the implementation of the *Act respecting reserved designations and added-value claims*. The province was the first to regulate organic production, even before the federal government. Moreover, the federal government drew heavily on the Quebec system to establish the rules surrounding the certification of organic products in Canada.

The Conseil des appellations réservées et des termes valorisants (CARTV) accredits certifying bodies and ensures compliance with the use of the organic label in the province. For its part, FBQ promotes consultation between all links in the sector and coordinates the efforts of its partners with a view to promoting organic products and developing markets. The establishment of a partnership between Aliments du Québec, CARTV and FBQ allows consumers to identify local organic foods thanks to the “Aliments du Québec – Bio” logo, which clearly designates authentically organic products that meet established standards, while guaranteeing that these products are from Quebec.

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<sup>34</sup> CIRANO, 2019.

## 3. The 2014–2018 Quebec Organic Sector Development Strategy

### 3.1. Presentation of the 2014-2018 Quebec Organic Sector Development Strategy

The Quebec Organic Sector Collective Development Strategy, presented by the FBQ for the 2014–2018 period, proposed the implementation of a strategy with two lines of development likely to stimulate both the supply of and demand for organic products. Since then, two very distinct bodies have been working on the implementation of actions to achieve the set objectives, one focused on production and the other on promotion.

On the one hand, the Table de développement de la production biologique (TDPB), established by the UPA in 2014, brings together production, research and government actors to think about ways to support producers through programs adapted to organic production, to increase research and advisory services, to improve the relationship between conventional and organic producers as well as the marketing of products, and finally to promote organic agriculture<sup>35</sup>. A concrete example to stimulate the development of production was the creation of the [VirageBio](#) Web tool, the result of a partnership between members of the TDPB affiliated with the UPA, CRAAQ and the Centre d'expertise et de transfert en agriculture biologique et de proximité (CETAB+).

On the other hand, FBQ is dedicated to adding value to and promoting Quebec organic products in order to develop market demand. To this end, public awareness campaigns highlight the reliability of organic certification and the obligations of producers in connection with the validation and verification process in businesses<sup>36</sup>.

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### 3.2. Achievement of the objectives of the 2014-2018 Quebec Organic Sector Development Strategy

The objective of the 2014-2018 collective strategy to have the Quebec organic sector recognized as an important player to be supported has been achieved. Support programs have indeed emerged since 2014. The 2015-2018 Growth Strategy for the Organic Sector from the Quebec Ministry of Agriculture, Fisheries and Food (MAPAQ) proposed a budget of CA \$9 million to provide financial support for the development of organic businesses<sup>37</sup>. The Quebec Bio-Food Policy provides CA \$10.5 million over five years for investments to convert businesses to organic management and a budget of CA \$7 million for the improvement of programs related to risk management (crop and revenue insurance) and of the Prime-Vert program to promote agri-environmental measures<sup>38</sup>. More generally, the government of Quebec establishes that La

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<sup>35</sup> UPA, 2015.

<sup>36</sup> Filière biologique du Québec, [Les garanties du bio](#), 2018.

<sup>37</sup> MAPAQ, 2015.

<sup>38</sup> *Idem*, 2018.

Financière agricole du Québec's (FADQ) Financial Support Program for Aspiring Farmers and Support for Diversification and Regional Development Program are tools that promote the conversion and creation of farm businesses under organic management. However, as there are no measures to ensure the maintenance of organic businesses, the sustainability of organic management for the businesses is not ensured. Moreover, one of the strategic targets of the 2014-2018 Quebec Organic Sector Development Strategy was to offer support for the conversion and creation of organic farming businesses and for the maintenance of these businesses<sup>39</sup>.

Thanks to the support of MAPAQ and research and information-dissemination organizations, organic production has gained visibility in Quebec. The sharing of experiences, the publication of technical and economic references, the conduct of research activities and the development of specialized advisory services helped to stimulate the development of production between 2014 and 2018. As shown in Table 2, the Strategy's performance indicators have all been achieved, whether in relation to the area converted or the number of businesses.

**Table 2: Monitoring of performance indicators defined in the 2014-2018 Quebec Organic Sector Collective Development Strategy**

Indicator	Strategy 2014-2018 objective	Level in May 2019	Objective achievement %
Area under or converting to organic management	Increase area under or converting to organic management from 58,000 to 620,000 ha (actual area besides headland)	89,193 ha (end of 2018)	Reached +31
Number of tapped maples under organic management	Increase the number of tapped maples under organic management from 7.2 to 8.2 million	17.8 million taps	Reached +147
Number of farm businesses with certified organic products or converting	Increase number of farm businesses with certified organic products from 1,040 to 1,200	2,170 businesses	Reached +109
Number of processing businesses with certified organic products	Increase the number of processing businesses with certified organic products from 216 to 240	858 businesses	Reached +297
Number of Quebec organic products	Increase the number of Quebec organic products from 5,600 to 7,000	12,600 products	Reached +125
Creation of full-time positions in the organic sector	Increase the number of full-time positions in the organic sector from 7,000 to 8,500	Data not available	Should be reached

Sources: Portail Bio Québec, 2019.

<sup>39</sup> Filière biologique du Québec, 2014.

## 4. Support measures for organic farming in Canada

### 4.1. Support for organic farming in provinces outside Quebec

Most support programs, whether federal or provincial, are funded in whole or in part by the Canadian Agricultural Partnership 2018-2023 for strategic initiatives and risk-management programs, the initial budget of which is CA \$3 billion<sup>40</sup>. These funds are intended for the development of markets, the sustainable growth of agriculture and the adoption of quality-assurance standards and regulations, without defining specific measures for organic production.

British Columbia recently enacted provincial organic regulations. The British Columbia Ministry of Agriculture has just created an organic farming manager position, and the Crop Insurance Program offers a specific component to organic orchard production.

In Alberta, there is an organic market development manager position at the Alberta Ministry of Agriculture and Forestry, but the shortage of trained organic agronomists is a problem. Since 2016, the province has offered a crop insurance program specific to organic farming. In 2019, the province adopted a regulation requiring the certification of products with an organic label.

Saskatchewan does not have provincial regulations for organic products, which means that compliance with organic claims on foods produced and sold in the province cannot be assured. As Saskatchewan is a major exporter, primarily of organic grains, companies are therefore largely required to hold federally regulated certification. In addition, an expert from the provincial Ministry of Agriculture is available to advise producers on conversion to organic. The provincial association of organic-sector businesses, SaskOrganics, prioritizes improving support for the provincial organic sector. It should be noted that the Crop Insurance Program has a component adapted to organic production covering 23 types of products, which makes it the largest program in the country.

Manitoba passed the Organic Agricultural Products Act in 2013. A team from the province's Ministry of Agriculture provides technical support through the Organic Sector Development Specialist, whose main role is to understand the obstacles to the development of organic agriculture and to propose programs to overcome them. The specific Crop Insurance Program covers only three crops for organic management.

Ontario still does not have provincial regulations for organic production. Since 2011, a voluntary Foodland Ontario Organic logo has allowed local producers who comply with the federal standard to gain visibility. Crop insurance offers an organic component for around 20 crops<sup>41</sup>.

The Maritimes have a network of organic businesses, the Atlantic Canada Organic Regional Network, that enables an exchange of practices and resources for the development of the organic sector. From a legal standpoint, only Nova Scotia and New Brunswick have specific provincial

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<sup>40</sup> Canadian Organic Trade Association, 2019.

<sup>41</sup> Canadian Organic Trade Association, 2019.

regulations and a system for monitoring and managing complaints regarding the organic designation. These two provinces offer a program to support the development of small farms by meeting needs in terms of consulting services, equipment, or even payment of certain certification fees. Prince Edward Island offers the same type of program, which does not include the conversion phase. The Northwest Territories do not have organic regulations. The Government of Yukon provides training and study trips for producers and supports the Growers of Organic Food Yukon<sup>42</sup>.

## 4.2. Status of support measures currently offered in Quebec

The programs listed below in Table 3 are the government programs offered to Quebec businesses according to their stage in the process of converting to organic farming. The conversion period is three years between the implementation of the practices provided for in the organic specifications and the initial certification. Maintenance is the period after initial certification has been obtained, so it is the period in the life of the farm during which it is necessary to renew the certification on an annual basis. Creation is the period of starting a new business or expanding an existing business.

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<sup>42</sup> Canadian Organic Trade Association, 2019.

**Table 3: Organic production support programs offered in Quebec in 2019**

Program	Conversion	Maintenance	Creation
<b>Advisory services program, financial assistance increased to 85% for organic and converting businesses</b>	<b>Component 1 – Consulting services for management, technical guidance or agri-environment:</b> Reimbursement of 85% of fee expenses with a cap of CA \$30 K per year	<b>Component 1 – Consulting services for management, technical guidance or agri-environment:</b> Reimbursement of 85% of fee expenses with a cap of CA \$30 K per year	<b>Component 1 – Consulting services for management, technical guidance or agri-environment:</b> Reimbursement of 85% of fee expenses with a cap of CA \$40 K per year
<b>Organic Farming Conversion Support Program from the Growth Strategy for the Organic Sector 2015–2018, officially extended until 2022</b>	<p><b>Component 1 – Surface conversion (and expansion):</b> Maximum of CA \$20 K per business, meaning CA \$10 K for pre-certification and CA \$10 K for certification – Cumulative by crop and non-renewable</p> <p><b>Component 2 – Upgrading of livestock facilities:</b> Reimbursement of 50% of eligible costs up to a limit of CA \$20 K (the business must not have started the work or made a commitment before the application for assistance)</p>		<p><b>Component 1 – Surface creation:</b> Maximum of CA \$20 K per business, meaning CA \$10 K for pre-certification and CA \$10 K for certification – Cumulative by crop and non-renewable</p> <p><b>Component 2 – Construction or modification of livestock facilities:</b> Reimbursement of 50% of eligible costs up to a limit of CA \$20 K (the business must not have started the work or made a commitment before the application for assistance)</p>
<b>Financial Assistance Subsidy Program for Prime-Vert 2018–2023</b>	<b>Component 1 – Agri-environmental intervention (water, soil, climate, pesticides, biodiversity):</b> Assistance of 90% of eligible costs incurred, with a cap of CA \$20–125 K for the duration of the program	<b>Component 1 – Agri-environmental intervention (water, soil, climate, pesticides, biodiversity):</b> Assistance of 90% of eligible costs incurred, with a cap of CA \$20–125 K for the duration of the program	<b>Component 1 – Agri-environmental intervention (water, soil, climate, pesticides, biodiversity):</b> Assistance of 90% of eligible costs incurred, with a cap of CA \$20–125 K for the duration of the program



Program	Conversion	Maintenance	Creation
<b>Support for Diversification and Regional Development Program (excluding crops under ASRA or GO and grain corn, potatoes and soybeans, unless organic conversion)</b>	<b>Diversification support component:</b> For diversification and product development, payment of CA \$7.50 per CA \$100 of eligible funding on a loan of a maximum amount of CA \$200 K. Grant capped at CA \$15 K, paid over a maximum of 3 years. Not specific, but more open if organic project (includes crops under ASRA if organic).		<b>Diversification support component:</b> For diversification and product development, payment of CA \$7.50 per CA \$100 of eligible funding on a loan of a maximum amount of CA \$200 K. Grant capped at CA \$15 K, paid over a maximum of 3 years. Not specific, but more open if organic project (includes crops under ASRA if organic).
<b>Quebec Farm Business Development Program</b>	Grant for investment to build or renovate for compliance with organic farming standards: Payment of CA \$13.33 per CA \$100 of eligible funding, out of a maximum loan of CA \$150 K.  Grant capped at CA \$20 K, paid over a maximum of 5 years.	Grant for investment to build or renovate for compliance with organic farming standards or to improve performance or profitability: Payment of CA \$13.33 per CA \$100 of eligible funding, out of a maximum loan of CA \$150 K.  Grant capped at CA \$20 K, paid over a maximum of 5 years.	Grant for investment to build or renovate for the start-up of a new farm business: Payment of CA \$13.33 per CA \$100 of eligible funding, out of a maximum loan of CA \$150 K.  Grant capped at CA \$20 K, paid over a maximum of 5 years.
<b>Crop Insurance Subsidy Program</b>	Not applicable	Subsidy of compensation for certain crops under organic management (specific unit price set by the FADQ)	Subsidy of compensation for certain crops under organic management (specific unit price set by the FADQ)
<b>Agri-Québec Contribution Subsidy Program (+50% of pre-certified income)</b>	<b>4% subsidy the government contribution</b> (i.e., 8.2% if income < CA \$100 K, or if income > CA \$100 K, then 7.2% on the CA \$0–100 portion and 5.2% on the CA \$100–200 K portion)	Not applicable	Not applicable
<b>Financial Support Program for Aspiring Farmers</b>	Not applicable	Not applicable	<b>Grant</b> of CA \$20–50 K if full-time and CA \$10–25 K if part-time, depending on education level. ASRA contribution discount of 25% for 3 years if part-time and ASREC premium reduction of 25% for 3 years



Program	Conversion	Maintenance	Creation
<b>Ministerial Plant Productivity Initiative program</b>	<p>Subsidy to cover expenses for improving efficiency for businesses in crop production and beekeeping (equipment, technological tools, advisory services not eligible for the advisory services program).</p> <p>Coverage of 60% of expenses within the limit of CA \$50 K, versus 50% if conventional.</p>	<p>Subsidy to cover expenses for improving efficiency for businesses in crop production and beekeeping (equipment, technological tools, advisory services not eligible for the advisory services program).</p> <p>Coverage of 50% of expenses within the limit of CA \$50 K, versus 40% if conventional.</p>	<p>Subsidy to cover expenses for improving efficiency for businesses in crop production and beekeeping (equipment, technological tools, advisory services not eligible for the advisory services program).</p> <p>Coverage of 50% of expenses within the limit of CA \$50 K, versus 40% if conventional.</p>

Sources: *Organic Farming Conversion Support Program 2015–2022*. MAPAQ, 2018; *Ministerial Plant Productivity Initiative program*. Quebec, MAPAQ, 2018. *2018-2023 Innov'Action Program*. MAPAQ, 2018; *Support for Diversification and Regional Development Program* FADQ, 2013; *Quebec Farm Business Development Program*. FADQ, 2016; *2018–2023 Prime-Vert Program*. MAPAQ, 2018; *Advisory Services Program*. MAPAQ, 2018; *Food processing: Automation, robotization and quality systems Program* MAPAQ, 2018; *Crop Insurance Program*. FADQ, 2019.



A large number of programs and measures are in effect in Quebec, many of which seem to support businesses undergoing conversion, certified businesses and the creation of new businesses. Not all the programs are specifically devoted to organic farming, but a good number of them indirectly contribute to the development of organic farm businesses by offering a subsidy for the amounts covered. The visibility of the different programs is questionable, given their large number. It could be relevant to measure the rate of their use by companies holding organic certification. We note that access to most of the programs is conditional upon investments by farms.

## 5. Support measures for organic farming abroad

### 5.1. Support measures in the United States

#### 5.1.1. Federal measures

The Farm Bill includes a section entirely devoted to organic farming, which offers support for certification, research, data collection and analysis, and traceability<sup>43</sup>. While growth in demand is an explanatory factor, the measures of the expired Farm Bill (2014–2018) also appear to have been beneficial, as the United States has seen the number of certified farms increase by 39%<sup>44</sup>. Table 4 and Figure 8, below, show the evolution of assistance between the Farm Bill in effect in 2008 and that in effect in 2018.

Table 4: Evolution of US Farm Bill measures in favour of organic farming

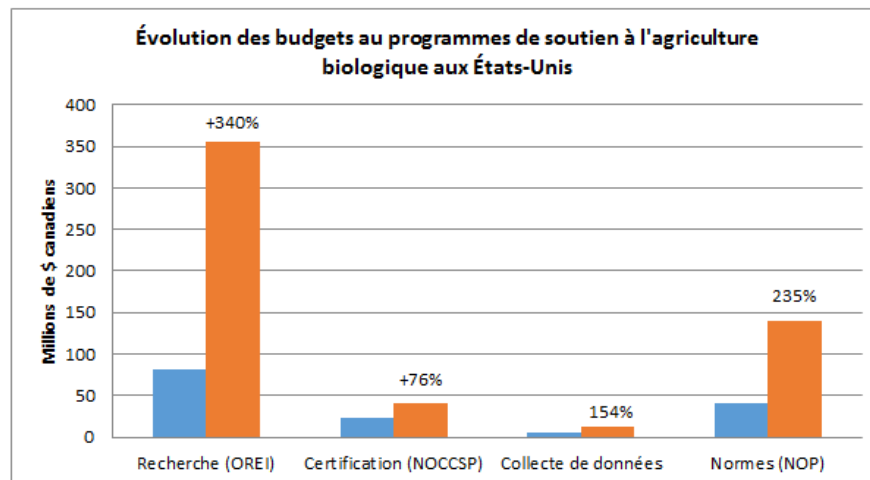
Field of intervention	2008 Farm Bill (USD/CAD rate: 1.06)	2018 Farm Bill (USD/CAD rate: 1.3)
Initiative for research and dissemination of knowledge in organic farming (OREI – Organic Agriculture Research and Extension Initiative)	Total funds = US\$78 M (CA\$82 M) over 5 years	2019: US \$20 M 2020: US \$20 M 2021: US \$25 M 2022: US \$30 M 2023: US \$50 M  + discretionary fund of US \$25 M per year →total US \$270 M over 5 years (CA \$351 M)  (+340% versus 2008)

<sup>43</sup> USDA, Census of Agriculture, Washington, 2017.  
<sup>44</sup> *Idem*, Certified Organic Survey 2016 Summary. National Agricultural Statistics Service, Washington, 2017.

Field of intervention	2008 Farm Bill (USD/CAD rate: 1.06)	2018 Farm Bill (USD/CAD rate: 1.3)
National Organic Certification Cost-Share Program (NOCCSP) (valid for initial certification/conversion and maintenance)  Assistance covering 75% of costs up to US \$750 per activity	Total funds = US \$22 M (CA \$23 M) over 5 years	Total funds = US \$24 M over 5 years, to which is added US \$16.5 M that was unused from the previous Farm Bill  → Total of US \$40.5 M (CA \$53 M) over 5 years  (+132% versus 2008)
Collection and analysis of economic data related to the organic sector (Organic productions and market data initiatives)	US\$5 M (CA\$5.3 M) over 5 years	US \$5 million and addition of a discretionary fund of US \$5 million  → US\$10 M (CA\$13 M) over 5 years  (+154 % versus 2008)
Crop insurance programs adapted to organic production (valid for the converting and certified businesses)	The surcharge rate (5% in 2002) will first be reviewed, then reduced or eliminated	No surcharge rate  The list of crops at subsidized prices increases from 4 to 79 varieties
National Organic Program (NOP) for the establishment of and compliance with standards governing the production, certification, handling, identification and accreditation of organic products sold in the United States	2008: US \$5 M 2009: US \$6.5 M 2010: US \$8 M 2011: US \$9.5 M 2012: US \$11 M  → Total of US \$40 M (CA \$42.4 M) over 5 years	2019: US \$16.5 M 2020: US \$18 M 2021: US \$20 M 2022: US \$22 M 2023: US \$24 M  And addition of US \$5 M for investments in traceability  → US \$105.5 M (CA \$137 M) over 5 years  (+235 % versus 2008)
National Organic Initiative (NOI) programs to help with soil conservation and environmentally friendly practices (Environmental Quality Incentives Program with special components for organic farms)	Non-existent	Maximum payment of US \$140,000 (CA \$182,000) per 5-year period (organic project bank, reduces competition for grants)

Sources: Organic Trade Association, 2019; USDA, 2008; USDA, 2019.

**Figure 8: Evolution of assistance for organic farming in the United States between 2008 and 2018**



Source : (Organic Trade Association, 2019); (USDA, 2008); (USDA, 2019)

[Translation: Evolution of budgets for organic agriculture support programs in the United States; Millions of Canadian \$; Research (OREI); Certification (NOCCSP); Data collection; Standards (NOP)]

Over the past decade, a significant budgetary effort has been made for assistance to producers, development of standards and information, and research. Support for agricultural businesses has grown considerably with support for the conversion and maintenance of organic management. At the same time, the list of crops eligible for specific crop insurance has been extended, and the premium surcharge has been removed<sup>45</sup>. The budget dedicated to the NOP to oversee federal production has almost tripled to improve controls and identification of products manufactured and sold in the country. The US government has also prioritized data collection, research and training. Regarding the conservation of resources, the Environmental Quality Incentives Program (EQIP), which provides support for the establishment of good growing practices, has integrated a component specific to organic farming in order to help producers implement conservation measures<sup>46</sup>.

### 5.1.2. Measures in Minnesota

Minnesota is one of the pioneering states in organic certification. Institutional support is strong, and the Minnesota Organic Advisory Task Force enables proactive thinking and plays an advisory role to the Department of Agriculture. In terms of production support, the federal program is supplemented by a local business support program. Table 5 summarizes those offered in Minnesota. A specific support program for the three years of conversion is added to that of the NOCCSP, at the federal level. Minnesota stands out in particular by offering participation in the conversion allowing farm businesses to have soil analyses carried out, or even to receive training before going through the certification process. The University of Minnesota offers numerous research projects specific to organic farming, as well as assistance for the organization of

<sup>45</sup> National Sustainable Agriculture Coalition, [Organic Crop Insurance](#), 2016.

<sup>46</sup> USDA, [Natural Resources Conservation Service](#), EQIP Organic Initiative, 2018.

information exchange sessions and the regular publication of a report on organic production based on surveys of farm businesses to determine the issues to be raised<sup>47</sup>.

**Table 5: Current organic production support programs in Minnesota**

Program	Conversion (USD/CAD rate: 1.32)	Maintenance (USD/CAD rate: 1.32)	Creation (USD/CAD rate: 1.32)
<b>Certification cost-sharing program</b>	Financial assistance of 75% of certification costs up to a limit of US \$750 (CA \$990) per activity, i.e., plant production, animal production, wild harvesting and processing.	Financial assistance of 75% of certification costs up to a limit of US \$750 (CA \$990) per activity	Not applicable to a start-up business
<b>Organic conversion support program</b>	Financial assistance of 75% of the costs of pre-certification, soil analysis and participation in seminars, up to a limit of US \$750 (CA \$990) per year, for a period of 3 years or less if certified beforehand.  Encourages the use of a certifier to better prepare for the certification audit.	Not applicable for an already certified company	Financial assistance of 75% of the costs of pre-certification, soil analysis and participation in seminars, up to a limit of US \$750 (CA \$990) per year, for a period of 3 years or less if certified beforehand.  Encourages the use of a certifier to better prepare for the certification audit.

Source: Minnesota Department of Agriculture, 2019.

Good practices are encouraged through the offer of subsidized payments for application to the Conservation Stewardship Program (CSP) for measures to conserve soil, water resources and natural habitats<sup>48</sup>. The Environmental Quality Incentives Program provides free technical assistance and financial assistance of up to US \$140,000 (CA \$180,000) to businesses that engage in environmental conservation with investments in irrigation, creation of riparian buffers, or better greenhouse energy management<sup>49</sup>.

<sup>47</sup> Status of organic agriculture, [www.mda.state.mn.us/sites/default/files/inline-files/legprpt-organic2015.pdf](http://www.mda.state.mn.us/sites/default/files/inline-files/legprpt-organic2015.pdf).

<sup>48</sup> USDA, 2018.

<sup>49</sup> Minnesota Department of Agriculture. Status of Organic Agriculture in Minnesota, Saint Paul, 2016.

The Minnesota Farm Service Agency offers credit to working farms seeking to develop and loan programs for small farms to get established. A local crop insurance program, the Noninsured Crop Disaster Assistance Program, provides insurance for crops not covered by the basic program, with a specific price for organic crops<sup>50</sup>.

### 5.1.3. In California

Through the State Organic Program (SOP), the California Department of Food and Agriculture completely replaces the federal government in administering federal programs. This allows California to improve regulation beyond federal regulations—the NOP in this case—to administer registration, controls, product analysis and complaint handling itself<sup>51</sup>. Each producer or processor must be registered with the State of California to be SOP compliant and must be registered with an approved certifier to be NOP compliant. In both cases, there is a subsidy of 75% of the registration fee. In short, the relationship between the SOP and NOP is symbiotic. The SOP enforces the California NOP regulations, and the NOP relies on the SOP to perform control management<sup>52</sup>. Table 6 shows the programs currently offered to California organic farm businesses.

**Table 6: Current organic production support programs In California**

Program	Conversion (USD/CAD rate: 1.32)	Maintenance (USD/CAD rate: 1.32)	Creation (USD/CAD rate: 1.32)
<b>NOP Organic Certification Cost Share Program</b> (California Department of Food and Agriculture, 2018)	Annual financial assistance of 75% of certification costs up to a limit of US \$750 (CA \$990) per activity	Annual financial assistance of 75% of certification costs up to a limit of US \$750 (CA \$990) per activity	Annual financial assistance of 75% of certification costs up to a limit of US \$750 (CA \$990) per activity
<b>SOP registration cost sharing program</b> (California Department of Food and Agriculture, 2018)	Annual financial assistance of 75% of the cost of registering activities in the State of California up to a limit of US \$750 (CA \$990)	Annual financial assistance of 75% of the cost of registering activities in the State of California up to a limit of US \$750 (CA \$990)	Annual financial assistance of 75% of the cost of registering activities in the State of California up to a limit of US \$750 (CA \$990)

Sources: California Department of Food and Agriculture, 2018.

The California Organic Products Advisory Committee brings together producers, processors, distributors and members of the government with the aim of proposing new methods to stimulate the development of the organic sector and strengthen policy action for organic product promotion and training<sup>53</sup>.

<sup>50</sup> *Ibid.*

<sup>51</sup> California Department of Food and Agriculture. State Organic Program, Pacific Grove, 2016.

<sup>52</sup> California Certified Organic Farmers. *Review of the California State Organic Program*, Santa Cruz, 2015.

<sup>53</sup> Berkeley Food Institute. *Growing Organic, State by State*. Berkeley, 2017.

Like Minnesota, California applies a payment bonus that varies according to the investment (+25% on average), within the framework of the CSP and the EQIP, for companies that are converting or certified<sup>54</sup>.

## 5.2. Support measures in Europe

### 5.2.1. For the entire European community

The Action Plan for the future of Organic Production in the European Union, adopted in 2014, proposes three axes: strengthening the competitiveness of agricultural businesses, developing consumer confidence in certification, and increasing trade with third countries<sup>55</sup>. Overall, the funds allocated to agriculture in Europe are governed by the Common Agricultural Policy (CAP), which comprises two pillars. The first pillar contains direct income support linked to market conditions. The second pillar includes assistance to support agriculture as a provider of public good, with decoupled and conditional funding in favour of competitiveness, the development of rural areas, and environmental conservation. This second pillar is co-funded by all the Member States, and each country establishes its own rural development program according to local needs and administers it at the national or regional level.

As part of the CAP 2014-2020, an overall budget of €6.3 billion (CA \$9.3 billion)<sup>56</sup> is dedicated to maintaining and converting organic businesses<sup>57</sup>. The management approach and requirements differ by jurisdiction. In most countries, assistance from the first pillar of the CAP is granted to all types of farms, organic or conventional, through a 'green' payment, which requires compliance with minimum criteria to be able to receive area payments. This green payment represents at least 30% of the budget for this pillar. This intervention follows strict rules ensuring a minimum ratio of permanent grassland area to UAA and the protection of areas deemed vulnerable (Natura 2000 areas), as well as a minimum number of crops to be included in the rotation according to the farm size.

The organic budget is part of the second pillar, which focuses on rural development and the conservation of resources. Each country, through its rural development plan, decides on the distribution of the allocated budget, and each is given greater latitude to pay for actions according to local priorities. Thus, in each country, payments for organic farming vary according to the types of production and the priority areas defined. Some countries have implemented a sliding-scale payment based on farm area to favour small businesses<sup>58</sup>. Measures promoting the development of agritourism to create "biodistricts" are also proposed.

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<sup>54</sup> USDA. *Conservation Stewardship Program for Organic Producers*, Washington, 2018.

<sup>55</sup> European Commission. *Action Plan for the future of Organic Production in the European Union*, Brussels, 2014.

<sup>56</sup> EUR/CAD rate: 1.47.

<sup>57</sup> Agence Bio. *Organic in the EU*, Montreuil, 2017.

<sup>58</sup> *Ibid.*

Finally, increasing numbers of organic institutional foodservice projects (daycares, schools, health facilities, etc.) make it possible to secure farmers' revenues through long-term contracts. In 2018, the EU laid the groundwork for the next organic regulation, which will come into force in 2021. In addition, it is currently working on the future CAP 2021-2027 with the objective of ensuring that organic farming leads to sustainable agriculture and that farmers obtain remuneration for public services rendered, such as the production of endangered breeds, the conversion of arable land into permanent grasslands, or even agriculture in mountain areas<sup>59</sup>. Moreover, in May 2020, the European Commission published the "Farm to Fork" strategy for a fair, healthy and environmentally friendly food system. This strategy aims to allocate at least 25% of EU farmland to organic farming by 2030 and to significantly increase the share of organic aquaculture. To achieve this, the Commission intends to present an action plan for organic farming, which will complement CAP measures such as green programs, investments and advisory services<sup>60</sup>. It is specified that this action plan will help Member States to stimulate both supply and demand for organic products.

Finally, significant funding for interdisciplinary research is achieved through the Horizon 2020 program. Within this program, the 2016-2021 CORE Organic Cofund currently offers 12 research areas for total funding of €13 million (CA \$19 million)<sup>61</sup>. The European network for the exchange of information and good practices, through the Organic Farm Knowledge platform, aims to become the information reference in Europe<sup>62</sup>.

### 5.2.2. In France

Since 2001, Agence Bio has been centralizing communication and promotion to all stakeholders, playing an observer role in the sector in a spirit of partnership between organic farming, conventional farming, administration and professionals, both upstream and downstream of the sector.

In about 10 years, France has seen the number of organic farms double and it now ranks third among EU countries with the largest share of UAA under organic management. In order to maintain this trend, the Ambition Bio 2022 project establishes a goal of 15% of the UAA under organic management. The program promotes practices that respect the environment, biodiversity and animal welfare around several areas of development<sup>63</sup>:

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<sup>59</sup> Research Institute of Organic Agriculture FiBL. The world of organic agriculture, statistics and emerging trends, Frick, 2019.

<sup>60</sup> European Commission. A "Farm to Fork" strategy for a fair, healthy and environmentally friendly food system. Communication from the Commission to the European Parliament, the European Economic and Social Committee and the Committee of the Regions, Brussels, May 20, 2020.

<sup>61</sup> EUR/CAD rate: 1.47.

<sup>62</sup> Research Institute of Organic Agriculture FiBL, 2019.

<sup>63</sup> Ministère de l'Agriculture et de l'Alimentation. Ambition Bio 2022, Paris, 2018.

- **Production development axis**
  - Encourage collective approaches (sectors and territories).
  - Improve data exchange (geolocation of organic plots).
  - Establish a compensation fund for producers whose crops have suffered contamination preventing them from being labelled as organic.
  - Develop the organic seeds and plants sector<sup>64</sup>.
  - Structure and promote access to organic inputs.
- **Sector structuring axis**
  - Create a tool for territorial dialogue to define production priorities.
  - Develop tools for securing commercial relations.
  - Strengthen the role of observatories and improve access to information.
  - Define price and production cost indicators adapted to organic.
- **Consumption development axis**
  - Reach 20% of organic products in foodservice.
  - Develop promotion programs and increase exports.
- **Research strengthening axis**
  - Direct a greater part of research towards production.
  - Strengthen work to measure the impact of organic productions and promote them as part of a payment for environmental services.
- **Training axis**
  - Develop organic in agronomic and veterinary training.
  - Improve access to educational resources for continuing education.
- **Regulation axis**
  - Make the communication of data from certification bodies compulsory.
  - Develop a bridge between organic and environmental certification.

As shown in Table 7 below, a significant budgetary effort has been made over the past 10 years to help the country return to the innovation and dynamism that characterized the organic farming sector in the 70s and 80s. Thus, the budget devoted to supporting farm businesses for converting to and maintaining to organic farming has almost doubled compared to the previous 5-year plan and is now close to one billion Euros (approximately CA \$1.5 billion)<sup>65</sup>.

<sup>64</sup> French Interprofessional Organisation for Seeds and Plants. Seeds and plants sector plan. Paris, 2017.

<sup>65</sup> EUR/CAD rate: 1.47.

**Table 7: Comparison of the evolution of organic support plans in France**

2012 Horizon Plan (EUR/CAD rate of 1.4)	2022 Ambition Bio Plan (EUR/CAD rate of 1.47)
Objectives: 6% of UAA converted to organic in 2012 (objective not reached, 3.9% on the balance sheet)	Objectives: 15% of UAA converted to organic in 2022 (7.5% in 2018)
Funds intended for conversion and maintenance assistance by the Programme de développement rural (PDR): €518 M for 5 years (CA \$725 M)	Funds intended for conversion and maintenance assistance by the PDR: €830 M for 5 years + €50 M/year as of 2020 (from the nonpoint source pollution levy) → €930 M (CA \$1.4 B) (+80% vs Horizon 2012)
Structuring fund for the Avenir Bio sector: €3 M/year (CA \$4.2 M)	Structuring fund for the Avenir Bio sector: €8 M/year (CA \$11.7 M) (+160% vs Horizon 2012)
<b>Organic tax credit:</b> €2,400/year (CA \$3,300)	<b>Organic tax credit:</b> €3,500/year per business (CA \$5,100, +50% vs Horizon 2012)
5-year <b>property tax exemption</b> on undeveloped land for certified businesses	5-year property tax exemption on undeveloped land for certified companies. (Note: meadows, orchards, vineyards and barrens are then permanently 20% exempt)
Research funds: €6 M/year (CA \$8.4 M)	Research funds have not been specified by the government

Sources: Inspection générale des Finances, 2013; Ministère de l'Agriculture et de l'Alimentation, 2018.

The increase in the budget devoted to supporting farm businesses for converting to and maintaining organic farming means in particular a marked improvement in payments per hectare and the fact that new crops are now eligible for payment of assistance, as detailed in Table 8.

**Table 8: Support measures for organic farming currently offered in France (EUR/CAD rate: 1.47)**

Type of crop	Conversion and creation	Maintenance (prioritization and possible assistance)
Vegetables and arboriculture (including seeds)	€900 (CA \$1,300)/ha/year (+50% for vegetables and +157% for arboriculture compared to Horizon 2012)	€600 (CA \$900)/ha/year (+70% for vegetables and +300% for arboriculture compared to Horizon 2012)
Perfume, aromatic and medicinal plants (not in list)	€900 (CA \$1,300)/ha/year	€600 (CA \$900)/ha/year
Field vegetable crops	€450 (CA \$660)/ha/year (+30% compared to Horizon 2012)	€250 (CA \$360)/ha/year (+70% compared to Horizon 2012)
Perfume, aromatic and medicinal plants (detailed list)	€350 (CA \$500)/ha/year	€240 (CA \$355)/ha/year
Viticulture	€350 (CA \$500)/ha/year (+30% compared to Horizon 2012)	€150 (CA \$220)/ha/year (constant compared to Horizon 2012)
Annual crops (including seeds)	€300 (CA \$475)/ha/year (+50% compared to Horizon 2012)	€160 (CA \$225)/ha/year (+60% compared to Horizon 2012)
Grasslands (associated with livestock production)	€130 (CA \$210)/ha/year (+30% compared to Horizon 2012)	€90 (CA \$130)/ha/year (+10% compared to Horizon 2012)
Barrens, summer pastures, ranges	€44 (CA \$65)/ha/year	€35 (CA \$50)/ha/year

Source: Ministère de l'Agriculture et de l'Alimentation, 2016

In order to promote biodiversity and the maintenance of rural landscapes, the owners of specific pastures (mountain, pasture, barrens) also receive payment. Additional support is also provided through the tax credit, which is increased by 50%, and by the 5-year property tax exemption measure for certified businesses in France<sup>66</sup>.

Each region can enhance the investments of producers and processors through regional support funds (calls for projects or individual applications received over time). The Avenir Bio program also makes it possible to support development initiatives in a sector or in a specific geographical area (such as the relaunch of a regional chestnut sector, the structuring of the collection and processing of organic cereals to boost organic poultry farming, etc.). Support can also be linked to the establishment of procedures indirectly linked to agricultural production that include an organic component. For example, regional water agencies can grant funds to collective projects for the development of organic sectors as part of the fight against nonpoint source pollution.

### 5.2.3. In Germany

As part of its Sustainable Development Strategy, the German federal government plans to achieve 20% of the UAA under organic management by 2030. To achieve this, a Strategy for the Future of Organic Farming was announced in 2017<sup>67</sup>.

<sup>66</sup> Ministère de l'Agriculture et de l'Alimentation. Ambition Bio 2022. Paris, 2018.

<sup>67</sup> Federal Ministry of Food and Agriculture (Bundesministerium für Ernährung und Landwirtschaft). Organic Farming – Looking Forwards strategy. Bonn, 2017.

### ➤ Structure of the sector

The federal support program for organic farming and other forms of sustainable agriculture, BÖLN, funds research and training as well as promotional operations. It is defined by the grouping of federations of producers, processors and distributors of organic products who act in the interest of the organic sector in Germany. The Bio-Siegel label complements and promotes organic products. The BÖLN proposes five priorities<sup>68</sup>:

- Defining a coherent legal framework;
- Facilitating the conversion to organic farming;
- Fully exploiting the potential of demand for organic products;
- Improving the performance of organic farming systems;
- Honouring the environmental services provided by organic farming.

The BÖLN endowment has seen a budget increase since 2018, amounting to €30 million per year (CA \$44 million)<sup>69</sup>, an increase of 76% compared to the budget of the previous decade, as can be seen in the Table 10.

### ➤ Production support

Support for producers is co-funded by European funds and the German federal government through the fund for agricultural development and the protection of maritime coasts. In Germany, organic practices are an integral part of the strategy for the development of rural areas and the preservation of the environment. As such, budgets are not specific to organic farming, but serve to support a large number of measures relating to agricultural infrastructure, including the promotion of agri-environmental and climate measures as well as organic farming<sup>70</sup>. In 10 years, the allocated budgets have almost doubled and are now €600 million (CA \$882 million) per year<sup>71</sup>. Each region can decide on the lump sum allocated to different crops according to the priorities it establishes and can add cross-compliance criteria<sup>72</sup>. The detail of the minimum grants receivable by producers is presented in Table 9, and the changes observed over the last 10 years are presented in Table 10.

<sup>68</sup> *Ibid.*

<sup>69</sup> EUR/CAD rate: 1.47.

<sup>70</sup> Federal Ministry of Food and Agriculture. Framework plan for Joint Task for the Improvement of Agricultural Structures and Coastal Protection 2019-2020 (Bundesministerium für Ernährung und Landwirtschaft). Rahmenplan der Gemeinschaftsaufgabe – Verbesserung der Agrarstruktur und Küstenschutzes 2019-2022. Bonn, 2019.

<sup>71</sup> *Ibid.*

<sup>72</sup> Federal Ministry of Food and Agriculture (Bundesministerium für Ernährung und Landwirtschaft). Organic Agriculture in Germany. Bonn, 2019.

**Table 9: Minimal organic production support measures currently offered in Germany<sup>73</sup>**

Type of crop	Conversion and creation	Maintenance
Vegetables	€590 (CA \$860) <sup>10</sup> /ha/year (+96% compared to GAK 2009-2013)	€360 (CA \$530)/ha/year (+56% compared to GAK 2009-2013)
Permanent crops and nursery	€950 (CA \$1,400)/ha/year (+111% compared to GAK 2009-2013)	€750 (CA \$1,100)/ha/year (+78% compared to GAK 2009-2013)
Annual crops	€250 (CA \$370)/ha/year (+66% compared to GAK 2009-2013)	€210 (CA \$305)/ha/year (+81% compared to GAK 2009-2013)
Pasture	€250 (CA \$370)/ha/year (+66% compared to GAK 2009-2013)	€210 (CA \$305)/ha/year (+81% compared to GAK 2009-2013)

Sources: Federal Ministry of Food and Agriculture (Bundesministerium für Ernährung und Landwirtschaft), 2019; Schwarz, Nieberg & Sanders, 2010

Support for production is bearing fruit in terms of economic benefits. For the 2017-2018 period, the government estimated the average profit per unit of labour on an organic farm at €44,000 (CA \$65,000), while this is estimated at €33,000 (CA \$48,500) for a comparable conventional farm, i.e. a difference of more than 20% in favour of organic management<sup>74</sup>.

**Table 10: Comparison of the evolution of organic support plans in Germany**

2009-2013 Plan	2018-2022 Plan
Objectives: 20% of UAA converted to organic in 2010 (objective not reached, 5.9% converted on the balance sheet)	Objectives: 20% of UAA converted to organic in 2022 (8.2% in 2019)
Support fund for organic farming and agri-environment support by the German Agricultural Development Fund <sup>75</sup> (GAK): €360 M per year (CA \$500 M)	Support fund for organic farming and agri-environmental support by the GAK: €600 M/year (CA \$882 M) (+76% compared to 2009–2013)
<b>BÖLN sector structuring fund:</b> (research, promotion, training) €17 M/year (CA \$24 M)	<b>BÖLN sector structuring fund:</b> (research, promotion, training) €30 M/year (CA \$44 M) (+76% compared to 2009–2013)

Source: Bundesministerium für Ernährung und Landwirtschaft

## ➤ Research support

Since the creation of the BÖLN in 2002, more than 1,000 research programs have already received more than €150 million in funding (CA \$220 million)<sup>76</sup>.

<sup>73</sup> EUR/CAD rate: 1.47.

<sup>74</sup> Federal Ministry of Food and Agriculture (Bundesministerium für Ernährung und Landwirtschaft). Organic Agriculture in Germany. Bonn, 2019.

<sup>75</sup> Community fund for Improvement of Agricultural Structures and Coastal Protection (Gemeinschaft Gabe zur Verbesserung der Agrarstruktur und des Küstenschutzes).

<sup>76</sup> EUR/CAD rate: 1.47.

#### 5.2.4. In Denmark

Denmark has set itself the ambitious goal of becoming the first European country to have 100% organic farming in the coming decade<sup>77</sup>. Organic farming enjoys strong government support. Following the implementation of an action plan to promote organic production in 2015, the government decided to increase the share of organic products in institutional foodservice (daycares, schools, prisons, health establishments, army, etc.).

##### ➤ Structure of the sector

The success of Danish organic farming depends on the cooperation of the entire value chain, and particularly Organic Denmark, which connects the stakeholders and is funded by a levy on sales of farms and by a state fund entirely funded by an eco-tax on pesticides<sup>78</sup>. Organic Denmark connects supply and demand, carries out promotional campaigns and trains distributors and consumers in the specifics of organic production<sup>79</sup>. The Danish state is responsible for the certification of organic companies and has been doing this work free of charge since 1998<sup>80</sup>. The population is very confident in the product control system, particularly because state inspectors carry out the controls and are therefore independent of any economic interest<sup>81</sup>. The world of catering is also very dynamic. More than 2,000 establishments claim the government Organic Cuisine label, which indicates the level of organic food used in their establishments, as shown in Figure 9.

Figure 9: The Organic Cuisine logos used in Danish foodservice



##### ➤ Production support

Danish organic production is currently three times the needs of the country's population. The large number of organic farms is largely explained by the fact that the government covers the fees of the consultants to study the conversion possibilities and issue the certification free of charge, but also by the fact that the Danish population is generally very favourable to organic farming, because it perceives it as an essential condition for meeting environmental challenges<sup>82</sup>.

<sup>77</sup> Ingemann, J. H. The Evolution of Organic Agriculture in Denmark. Aalborg, Aalborg University, 2006.

<sup>78</sup> Gosselin, É. *Visite au Danemark, le pays du bio*. La Coop fédérée. Québec, 2018.

<sup>79</sup> *Ibid.*

<sup>80</sup> Agence Bio. *Le bio dans l'Union européenne*. Montreuil, 2017.

<sup>81</sup> Organic Denmark. *The Organic way*. Åbyhøj. Denmark, 2018.

<sup>82</sup> Gosselin, É. *op. cit.*

Thus, thanks to the sustained demand and government assistance presented in tables 11 and 12 below, Danish organic farms make an average profit five times higher than that of conventional farms of a comparable size, according to Statistics Denmark<sup>83</sup>.

**Table 11: Support for organic production currently offered in Denmark<sup>84</sup>**

Type of crop	Conversion and creation	Maintenance
Vegetables, annual crops, pasture	€278 (CA \$408)/ha/year (+68% compared with 2007-2013)	€117 (CA \$172)/ha/year (+15% compared with 2007-2013)
Orchards and berries	€815 (CA \$1,200)/ha/year (+393% compared with 2007-2013)	€654 (CA \$960)/ha/year (+547% compared with 2007-2013)

Sources: Ministry of Food, Agriculture and Fisheries of Denmark, 2015; Schwarz, Nieberg & Sanders, 2010

**Table 12: Evolution of organic farming support plans in Denmark**

2007-2013 Plan	2014-2020 Plan
<p>Strictly speaking, there was no specific plan for organic farming before the one published in 2015. The 2007–2013 plan was a rural development plan not specific to organic.</p> <p>However, certain elements specific to the organic sector were found in the details of the measures.</p> <p>Funds for research in organic agriculture: €5.5 M/year (CA \$7.7 M).</p> <p>Support fund for organic production: €3.7 M/year (CA \$5.2 M).</p>	<p>Objectives: 12% of UAA converted to organic in 2020 (11% in 2019).</p> <p><b>Support fund for organic production:</b> €10.6 M (CA \$15.5 M)/year (+93% compared to 2007–2013).</p> <p>Fund to support research in organic farming: €8 M (CA \$11.8 M)/year (+47% compared to 2007–2013).</p> <p><b>Nationwide promotion fund:</b> €6.3 M (CA \$9.3 M) spent between 2015 and 2018.</p> <p><b>Export promotion fund:</b> €4.5 M (CA \$6.6 M) spent between 2015 and 2018.</p> <p>Support fund for public institutional foodservice: €8 M spent between 2015 and 2018 (CA \$11.8 M).</p> <p>➔ <b>Total allocation of the organic plan: €267 M (i.e. around €38 M/year)</b></p>

Sources: Ministry of Food, Agriculture and Fisheries of Denmark, 2015; ÉcoRessources Consultants for la Fédération d'agriculture biologique du Québec, 2009; Ministry of Food, Agriculture and Fisheries of Denmark, 2012; European Commission, 2014.

<sup>83</sup> *Ibid.*

<sup>84</sup> EUR/CAD rate: 1.47.

## ➤ Research support

The ICROFS research institute coordinates research projects nationwide. Research projects are supported by the government, and a database has recently been created to identify organic farming publications from around the world in order to share knowledge.

### 5.2.5. In Switzerland

Switzerland is also a pioneer country in the development of the organic sector and cultivates more than 16% of its agricultural area under organic management. In the medium term, Switzerland wishes to become a country entirely associated with organic farming, as suggested by the slogan “Switzerland, organic country” of the Bio Suisse organization, the main instigator of the structuring of the country’s organic sector<sup>85</sup>. According to a FiBL study, at comparable size and production, the majority of organic farms have better economic results than conventional farms, regardless of the contributions received<sup>86</sup>.

## ➤ Structure of the sector

The organic sector is very well-structured thanks to Bio Suisse, the country’s federation of organic farm businesses. Each member company responds to specifications and precise values of market equity and product quality, while committing to sustainable agriculture that respects natural cycles and animal welfare<sup>87</sup>. On this condition, the products of these companies can bear the label and the Bud registered trademark, a guarantee of quality for consumers. The organization is mainly funded through the annual membership fees paid by its members (CHF 100 basic and CHF 12/ha, or approximately CA \$130 and CA \$16/ha)<sup>88</sup> and by product license fees<sup>89</sup>. It is important to note that Bio Suisse’s specifications place fair trade relations at the heart of its priorities with a code of conduct for commercial relations. The points put forward by the organization during its consultation to define the new agricultural policy are<sup>90</sup>:

- Developing sustainable production systems;
- Promoting the production of foodstuffs that conserve resources;
- Acting in favour of climate protection and soil fertility;
- Prioritizing pesticide-reduction initiatives; and
- Renouncing genetic engineering and encouraging local plant breeding.

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<sup>85</sup> Swiss Confederation – Federal Office for Agriculture. Agricultural policy from 2022. Berne, 2019.

<sup>86</sup> Sanders, Nieberg & Offermann, 2010.

<sup>87</sup> Bio Suisse. Federation guidelines and policy. Bâle, 2018.

<sup>88</sup> CHF/CAD rate: 1.32.

<sup>89</sup> Bio Suisse. Guiding concepts. Bâle, 2018.

<sup>90</sup> Bio Suisse. 2022+ agricultural policy: The six requirements of Bio Suisse. Bâle, 2019.

Bio Suisse is also very active with consumers. In an effort to raise awareness among the general public, the website offers explanations of what organic farming can concretely provide to meet challenges related to the climate, animal welfare, or even the preservation of soil and biodiversity<sup>91</sup>. As shown in Figure 10, the general Bio Suisse Bud label is embellished with other indications depending on whether the product is local, from a converting farm, or is on a list of excellence<sup>92</sup> in order to better promote the products.

**Figure 10: The different labels of Bio Suisse**



### ➤ **Production support**

The Swiss support system is quite similar to that of EU countries, with a direct payment that is conditional on compliance with the required ecological services corresponding to the minimum agronomic practices to be implemented to promote the environment and biodiversity. Payments vary depending on the location of the farm, increasing the value of the occupation of mountain areas. Direct ecological payments are then added for producers carrying out conservation actions beyond the requested minimum, remunerating them for their contribution to biodiversity, the maintenance of rural landscapes, the reduction of pollution, or even the establishment of livestock production that is particularly effective in terms of animal welfare. There is no specific financial support for maintaining organic management in Switzerland, but these direct ecological payments certainly encourage companies to maintain certification.

Details of the support measures in Switzerland are given in Table 13 below. An upward trend in spending is already planned for the next agricultural policy starting in 2022, as detailed in Table 14<sup>93</sup>.

<sup>91</sup> Bio Suisse. Guiding concepts. Bâle, 2018.

<sup>92</sup> *Ibid.*

<sup>93</sup> Swiss Confederation – Federal Office for Agriculture. Direct payments to Swiss farms annually. Berne, 2019.

**Table 13: Organic production support in Switzerland in 2019**

Type of crop	Conversion and creation
Vegetables and orchards	CHF 1,600 (CA \$2,110)/ha/year Plus a cantonal contribution depending on the canton <ul style="list-style-type: none"> <li>➡ Canton of Vaud: CHF 800 (CA \$1,050)/ha/year + compensation if loss of more than 80% of harvest due to disease or pest in crop during conversion</li> <li>➡ Canton of Jura: Interest-free loan of CHF 40,000 (CA \$53,000) repayable in 8 years (valid for a farm regardless of number of crops)</li> <li>➡ Canton of Tessin: Grant of CHF 15,000 (CA \$20,000) conditional on a commitment to follow the organic specifications for 10 years</li> </ul>
Field crops	CHF 1,200 (CA \$1,580)/ha/year Plus a cantonal contribution depending on the canton <ul style="list-style-type: none"> <li>➡ Canton of Vaud: CHF 500 (CA \$660)/ha/year + compensation if loss of more than 80% of harvest due to disease or pest in rapeseed or pea crop during conversion</li> <li>➡ Canton of Jura: Interest-free loan of CHF 40,000 (CA \$53,000) repayable in 8 years (valid for a farm regardless of number of crops)</li> <li>➡ Canton of Tessin: Grant of CHF 15,000 (CA \$20,000) conditional on a commitment to follow the organic specifications for 10 years</li> </ul>
Other agricultural areas (pastures, summer pastures, barrens)	CHF 1,600 (CA \$2,110)/ha/year <ul style="list-style-type: none"> <li>➡ Regardless of the number of crops</li> <li>➡ Canton of Tessin: Grant of CHF 15,000 (CA \$20,000) conditional on a commitment</li> <li>➡ Canton of Vaud: CHF 150 (CA \$200)/ha/year on plains and CHF 300 (CA \$400)/ha/year on mountains</li> <li>➡ Canton of Jura: Interest-free loan of CHF 40,000 (CA \$53,000) repayable in 8 years (valid for a farm following the organic specifications for 10 years) (valid for a farm regardless of number of crops)</li> </ul>

Sources: Agridéa, 2015; Bioactualité, 2018; Swiss Federal Office for Agriculture, FOAG, 2019.

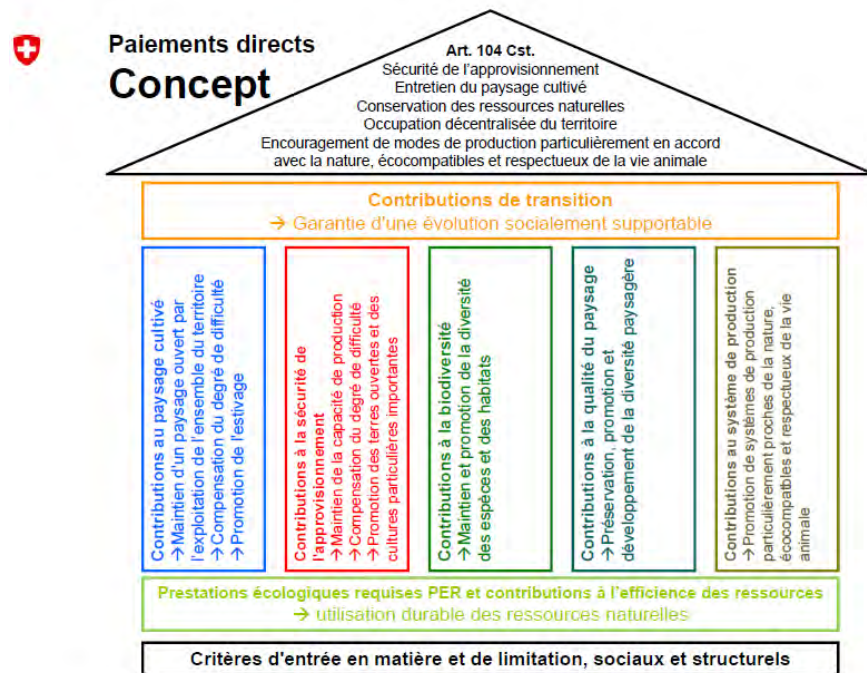
**Table 14: Comparison of the evolution of organic farming support plans in Switzerland**

2008-2011 Plan (CHF/CAD rate: 1.016)	2018-2021 Plan (CHF/CAD rate: 1.2)	2022-2025 Plan (provisional) (CHF/CAD rate: 1.32)
Funds dedicated to supporting production systems that are close to nature and respectful of the environment and animals and to conversion: CHF 1,852 M (CA \$1,880 M)	Funds dedicated to supporting production systems that are close to nature and respectful of the environment and animals and to conversion: CHF 2,442 M  (CA \$2,960 million) (+32% compared to 2008-2011)	Funds dedicated to supporting production systems that are close to nature and respectful of the environment and animals and to conversion: CHF 3,867 M  (CA \$5,100 million) (+58 % compared to 2018-2021)

Sources: Swiss Confederation – Federal Office for Agriculture. Arrêté fédéral sur les moyens financiers destinés à l'agriculture pour les années 2008 à 2011. Bern, 2007; Swiss Confederation – Federal Office for Agriculture. Arrêté fédéral sur les moyens financiers destinés à l'agriculture pour les années 2018 à 2021. Bern, 2016; (Swiss Confederation – Federal Office for Agriculture. Agricultural policy from 2022. Berne, 2019.

There is no national plan for organic farming in Switzerland. The means put in place to develop this type of management are included in the budget allocated to support production systems that respect the environment and animals, as detailed in Figure 11.

Figure 11: Composition of direct payments in Switzerland



Source: Office fédéral de l'agriculture suisse, 2018

[Translation: Direct payments – Concept. Art. 104 CST; Security of supply; Maintenance of the cultivated landscape; Conservation of natural resources; Decentralized occupation of the territory; Encouragement of production methods particularly in harmony with nature, eco-friendly and respectful of animal life. Transition contributions; Guarantee of socially bearable development. Contributions to the cultivated landscape; Maintenance of an open landscape through the exploitation of the entire territory; Compensation for degree of difficulty; Promotion of summering. Contributions to security of supply; Maintenance of production capacity; Compensation for degree of difficulty; Promotion of open lands and important special crops. Contributions to biodiversity; Maintenance and promotion of the diversity of species and habitats. Contributions to the quality of the landscape; Preservation, promotion and development of landscape diversity. Contributions to the production system; Promotion of production systems particularly close to nature, eco-compatible and respectful of animal life. Required ecological services PER and contributions to resource efficiency; Sustainable use of natural resources. Social and structural entry and limitation criteria. Source: Swiss Federal Office for Agriculture, 2018.

## ➔ Marketing support

Bio Suisse offers an entire promotional toolkit that agricultural businesses can order online.

## ➔ Research support

Bio Suisse regularly organizes days for exchange of good practices on farms, which allows the dissemination of knowledge and the emergence of common issues that can lead to research topics<sup>94</sup>.

<sup>94</sup> Bio Suisse. 2018 Annual Report. Bâle, 2019.

### 5.3. Summary of the evolution of support given to organic farming

In general, we find that budgets supporting the development of organic agriculture have been at least doubled in almost all of the countries analyzed over the past decade, as shown in Table 15. We note that beyond the variation in budgets, there has also been a change in the types of measures put in place, which now make payments conditional on the achievement of environmental objectives. The general trend is therefore no longer to consider organic farming as an end in itself, but as a practice that improves biodiversity, animal welfare and the fight against climate change. This consideration makes it possible to pool objectives in order to make the best use of the available financial resources.

**Table 15: Areas and resources devoted to organic farming, 2009–2019**

	% of UAA under organic in 2017	% of UAA under organic in 2009	Difference between 2009 and 2017	Average annual organic budget 2009 CA \$ M (USD/CAD rate 1.14; EUR/CAD 1.4; CHF/CAD 1.016)	Average annual organic budget 2019 CA \$ M (USD/CAD rate 1.32; EUR/CAD 1.47; CHF/CAD 1.32)	Difference between 2009 and 2019	2009 budget CAD/HAB (USD/CAD rate 1.14; EUR/CAD 1.4; CHF/CAD 1.016)	Budget CAD/HAB. 2019 (USD/CAD rate 1.32; EUR/CAD 1.7; CHF/CAD 1.32)
United States	0.60	0.20	200%	30	112	273%	0.10	0.34
Minnesota	0.27	0.30	-10%	n/d	n/d	n/d	n/d	n/d
California	1.07	0.91	18%	n/d	n/d	n/d	n/d	n/d
Canada	1.80	1.04	73%	4	11	175%	0.12	0.30
Quebec	2.70	1.30	108%	1.9	4.6	142%	0.24	0.55
EU	6.20	2.10	195%	650	1300	100%	1.29	2.54
Germany	8.20	5.59	47%	384	882	130%	4.69	10.65
Denmark	8.60	5.88	46%	13	38	192%	2.36	6.61
France	6.30	2.46	156%	155	288	86%	2.47	4.30
Switzerland	14.40	10.78	34%	470*	1200*	155%	61.02	142.52

Sources: USDA, 2017; USDA, 2008; Agence Bio, 2017; Statistics Canada, 2017; Swiss Confederation – Federal Office for Agriculture, 2007; Swiss Confederation – Federal Office for Agriculture, 2016; OECD, 2011; OECD, 2019; Agence Bio, 2017; Federal Ministry of Food and Agriculture – Bundesministerium für Ernährung und Landwirtschaft, 2017. Budget devoted to agriculture that respects the environment and animals – Ecological services required.

## 6. Benchmarking of support for a typical operation according to its place of operation

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The simulations set out below take into account the government assistance that a business under organic management would receive depending on the stage of its development (conversion, maintenance or creation). This type of simulation, based on a 'typical farm' model, makes it possible to compare the amounts of assistance received depending on the jurisdiction in which the business is located, with a distinction between investment assistance and assistance based on practices. Thus, with the farm model remaining fixed, it is possible to see the impact of government programs on the support received. It is important to specify that the purpose of this simulation is to present a comparison of government support in order to see its scope and impact. The limitations of the analysis are that not all farms are actually of the size considered in the typical farm assumptions and that economic situations vary from jurisdiction to jurisdiction. As prices and demand differ from one market to another, in no case can these simulations serve as a comparison of the profitability of farm businesses under organic management.

The assumptions used to define the typical farm in each of the productions under study come from group analysis reports and discussions with specialist advisors. For each situation, assumptions for the number of hours of advisory services, cost of certification, investments in equipment (e.g., weeding tools, pasture fencing) and the agri-environmental measures established were defined. The results in comparison with government support are expressed in dollars received per hectare, as assistance systems are most often expressed on this basis.

The calculation of support may be subject to time limits or expenditure limits, depending on the jurisdiction. All the details of the calculations are in the annex.

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### 6.1. Model of a dairy farm

The typical dairy farm was defined based on the 2017 provincial group analysis for organic dairy farms in Quebec<sup>95</sup> and through discussions with management consultants working in the dairy sector. The parameters used are those of a farm with a total area of 169 ha under cultivation: 100 ha cultivated in fodder, 40 ha in cereals and 29 ha in pasture. The production of this farm is based on maintaining 67 lactating cows. The detailed assumptions are presented in Annex 1: *Assumptions for establishing a typical organic dairy farm*.

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<sup>95</sup> Doré, M.-J., Tremblay, V. and Labrecque, L. *Analyse de groupe provinciale Lait biologique 2017*. La Pocatière. GCA Côte-du-Sud and GCA Lotbinière-Nord, 2019. [www.agriconseils.qc.ca/wp-content/uploads/2019/09/PDF-ADG-lait-bio.pdf](http://www.agriconseils.qc.ca/wp-content/uploads/2019/09/PDF-ADG-lait-bio.pdf)

The detailed results for the three stages (start-up, conversion and maintenance) are presented in Annex 2: *Simulation of conversion support measures in the dairy farm model*, Annex 3: *Simulation of maintenance support measures in the dairy farm model* and Annex 4: *Simulation of creation support measures in the dairy farm model*. Details of the assistance received per hectare are shown for each stage in tables 16, 17 and 18.

According to this simulation, Germany and Switzerland are the countries with the most assistance for the conversion and creation of organic dairy farms. However, when it comes to supporting the maintenance of such businesses, Switzerland is much less generous and only provides support linked to the implementation of agri-environmental measures (establishment of windbreaks and cover crops in our example), unlike EU member countries, which still show strong support even after farms are certified.

Quebec also provides significant support for investment projects. However, if we omit investments from the analysis and therefore consider the years following the investment expenditure, we note that the support is significantly lower compared to other jurisdictions.

**Table 16: Simulation of conversion assistance for a dairy farm**

	Quebec	Minnesota	California	Germany	Denmark	France	Switzerland
Conversion of crops	6,500	-	-	51,800	57,120	40,000	89,700
Conversion of pastures	725	-	-	10,730	11,832	6,090	7,685
Consulting services	5,525	990	-	-	-	-	-
Investments	26,665	-	-	-	-	3,500	-
Agri-environmental measures	11,640	43,156	59,652	56,000	-	28,000	18,200
Certification	-	900	900	-	-	-	-
Support/year (for the conversion period only)	51,055	45,046	60,552	118,530	68,952	77,590	115,585
Support/ha/year (year of investments)	302	267	358	701	408	459	684
Support/ha/year (outside of investment)	93	242	233	701	408	438	627

**Table 17: Simulation of assistance for creation of a dairy farm**

	Quebec	Minnesota	California	Germany	Denmark	France	Switzerland
Conversion of crops	6,500	-	-	51,800	57,120	40,000	89,700
Conversion of pastures	725	-	-	10,730	11,832	6,090	7,685
Consulting services	11,050	990	-	-	-	-	-
Investments	26,665	-	-	-	-	3,500	-
Agri-environmental measures	11,640	43,156	59,652	56,000	-	28,000	18,200
Certification	-	900	900	-	-	-	-
Support/year (year of business creation)	56,580	45,046	60,552	118,530	68,952	77,590	115,585
Support/ha/year (year of investments)	335	267	358	701	408	459	684
Support/ha/year (outside of investment)	126	242	233	701	408	438	627



**Table 18: Simulation of assistance for maintenance of a dairy farm**

	Quebec	Minnesota	California	Germany	Denmark	France	Switzerland
Conversion of crops	-	-	-	42,700	24,080	23,200	-
Conversion of pastures	-	-	-	8,845	4,988	3,770	-
Consulting services	4,420	-	-	-	-	-	-
Investments	-	-	-	-	-	3500*	-
Agri-environmental measures	11,640	43,156	59,652	56,000	-	28,000	18,200
Certification	-	900	900	-	-	-	-
Support/year	16,060	44,056	60,552	107,545	29,068	58,470	18,200
Support/ha/year (year of investments)	95	261	358	636	172	346	108
Support/ha/year (outside of investment)	44	236	233	636	172	325	51

\* Tax credit valid on operating expenses



## 6.2. Model of an intensive vegetable farm

The typical intensive vegetable farm was defined based on a publication by Agriculture and Agri-Food Canada's<sup>96</sup> Organic Value Chain Roundtable and interviews with management advisors working in the vegetable sector. We used an average of 8 acres, or 3.2 ha. With a view to meeting the demand for local products and improving the customer retention rate by extending the production period to 10 months per year (intensive production), an investment in two joined heated greenhouses is considered in this model, for a total area of 1,000 m<sup>2</sup> and a cost of CA \$240,000<sup>97</sup>. The detailed assumptions of the model can be found in Annex 5: *Assumptions in the case of a vegetable farm* and the detailed results for the three situations can be found in Annex 6: *Simulation of conversion support measures in the vegetable farm model*, Annex 7: *Simulation of maintenance support measures in the vegetable farm model* and Annex 8: *Simulation of support measures for creation in the vegetable farm model*.

In the case of vegetable production, the results summarized in tables 19, 20 and 21 show that Quebec stands out thanks to a significant subsidy per hectare of areas converted or created (MAPAQ Organic Farming Conversion Support Program). However, it should be remembered that support for conversion or creation only applies in the third year of conversion and the first year of certification (post conversion), and that this support is not recurrent. Nevertheless, even without considering this subsidy, support would still be the most important.

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<sup>96</sup> Organic Value Chain Roundtable, Agriculture and Agri-Food Canada. Benefits of organic products. Field crops. Ottawa, 2014.

<sup>97</sup> UPA. Assessment of the profitability of greenhouses in diversified organic vegetable production and investment assistance program. Longueuil, 2018.

**Table 19: Simulation of assistance for conversion of a vegetable farm**

	Quebec	Minnesota	California	Germany	Denmark	France	Switzerland
Conversion of crops	8,500	-	-	2,752	1,306	4,160	6,752
Consulting services	5,525	990	-	-	-	-	-
Investments	39,995	13,230	13,230	-	-	3,500	-
Agri-environmental measures	8,640	4,989	22,032	1,280	-	-	9,875
Certification	-	990	990	-	-	-	-
Support/year	62,160	20,199	36,252	4,032	1,306	7,660	16,627
Support/ha/year (year of investments)	19,581	6,312	11,329	1,260	408	2,394	5,196
Support/ha/year (outside of investment)	4,383	898	584	1,260	408	1,300	2,196

**Table 20: Simulation of assistance for creation of a vegetable farm**

	Quebec	Minnesota	California	Germany	Denmark	France	Switzerland
Conversion of crops	8,500	-	-	2,752	1,306	4,160	6,752
Consulting services	11,050	990	-	-	-	-	-
Investments	39,995	13,230	13,230	-	-	3,500	-
Agri-environmental measures	-	4,989	22,032	1,280	-	-	9,875
Certification	-	990	990	-	-	-	-
Support/year	59,545	20,199	36,252	4,032	1,306	7,660	16,627
Support/ha/year (year of investments)	18,608	6,312	11,329	1,260	408	2,394	5,196
Support/ha/year (outside of investment)	6,109	898	584	1,260	408	1,300	2,196



**Table 21: Simulation of assistance for maintenance of a vegetable farm**

	Quebec	Minnesota	California	Germany	Denmark	France	Switzerland
Conversion of crops	-	-	-	1,696	550	2,880	-
Consulting services	4,420	-	-	-	-	-	-
Investments	39,995	13,230	13,230	-	-	3,500	-
Agri-environmental measures	8,640	4,989	22,032	1,280	-	-	9,875
Certification	-	990	990	-	-	-	-
Support/year	53,055	19,209	36,252	2,976	550	6,380	9,875
Support/ha/year (year of investments)	16,580	6,003	11,329	930	172	1,994	3,086
Support/ha/year (outside of investment)	1,381	588	584	930	172	900	86



### 6.3. Model of a field crop farm

The typical field crop farm was defined based on a technical economic study on organic grain production in Quebec published by CRAAQ in 2018, which established the average area at 240 ha<sup>98</sup>. The other hypotheses were validated by discussions with advisors and through the use of the Transition Bio Express simulator from CETAB+. The assumptions of the model are provided in Annex 9: *Assumptions in the case of a field crop farm*. The results are detailed in Annex 10: *Simulation of conversion support measures in the field crop farm model*; in Annex 11: *Simulation of maintenance support measures in the field crop farm model*; and in Annex 12: *Simulation of creation support measures in the field crop farm model*.

For the case of a field crop farm, the results presented in tables 22, 23 and 24 are quite similar to those for the dairy farms. We can see that the most significant assistance for the conversion and the creation of organic farms is in Europe. We note that Quebec is at the same level of support as the United States, if only investment assistance is taken into account.

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<sup>98</sup> Quebec organic sector, CECPA, CETAB +, CRAAQ. Données économiques et techniques en production de grains biologiques au Québec – Résumé. MAPAQ, Quebec, 2018.

**Table 22: Simulation of assistance for conversion of a field crop farm**

	Quebec	Minnesota	California	Germany	Denmark	France	Switzerland
Conversion of crops	24,000	-	-	88,800	97,920	114,000	379,200
Consulting services	5,525	990	-	-	-	-	-
Investments	30,397	-	-	-	-	3,500	-
Agri-environmental measures	28,080	71,056	87,152	96,000	-	48,000	9,600
Certification	-	900	900	-	-	-	-
Support/year	88,002	72,946	88,052	184,800	97,920	165,500	388,800
Support/ha/year (year of investments)	367	304	367	770	408	690	1,620
Support/ha/year (outside of investment)	204	287	279	770	408	675	1,580

**Table 23: Simulation of assistance for creation of a field crop farm**

	Quebec	Minnesota	California	Germany	Denmark	France	Switzerland
Conversion of crops	24,000	-	-	88,800	97,920	114,000	379,200
Consulting services	11,050	990	-	-	-	-	-
Investments	30,397	-	-	-	-	3,500	-
Agri-environmental measures	-	71,056	87,152	96,000	-	48,000	9,600
Certification	-	900	900	-	-	-	-
Support/year	65,447	72,946	88,052	184,800	97,920	165,500	388,800
Support/ha/year (year of investments)	273	304	367	770	408	690	1,620
Support/ha/year (outside of investment)	146	287	279	770	408	675	1,580



**Table 24: Simulation of assistance for maintenance of a field crop farm**

	Quebec	Minnesota	California	Germany	Denmark	France	Switzerland
Conversion of crops	-	-	-	73,200	41,280	61,200	-
Consulting services	3,315	-	-	-	-	-	-
Investments	-	-	-	-	-	3,500	-
Agri-environmental measures	28,080	71,056	87,152	96,000	-	48,000	9,600
Certification	-	900	900	-	-	-	-
Support/year	31,395	71,956	88,052	169,200	41,280	112,700	9,600
Support/ha/year (year of investments)	131	300	367	705	172	470	40
Support/ha/year (outside of investment)	95	283	279	705	172	455	-

*\* Tax credit valid on operating expenses*



## Conclusion and perspectives

Organic farming has grown in popularity and has developed significantly over the past decade all over the world. Despite this growth, it still seems to be evolving on the fringes of the general development of traditional agriculture, even though it has the potential to help solve some of the environmental challenges of our time.

On the commercial level, organic production is subject to competition from other production systems and faces increased risks, often lower yields than conventional agriculture, but also strict standards and significant costs in order to maintain a certification obtained after years of conversion. During this period, the risks are not covered by an increase in sales prices. This reality justifies the conversion and start-up assistance in a majority of the jurisdictions studied, but the fact remains that some of this assistance offers maintenance assistance, which therefore allows organic farming to continue to develop.

Many approaches to support organic farming exist, depending on the jurisdiction. This diversity of programs tends to create unequal situations between companies at a time of market globalization. There is a trend towards direct support for organic companies in Europe with a recurring payment per hectare, which encourages the maintenance of practices associated with organic production, ensuring their implementation over the long term, even going as far as reducing, or even offering exemption from, property taxes. This type of measure applies significant leverage on the conversion rate. Very often, the payments per hectare are justified by the reward for positive externalities and partly financed by the deployment of taxes on pesticides.

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In North America, although there is more support focused on investment assistance and relatively less action in favour of environmental payments, it should be noted that the United States has implemented support programs covering part of the certification costs and the additional premium for crop insurance for organic production. This type of assistance is considered to support the maintenance of areas under organic production, since it offers recurrent assistance.

In several countries, a large number of measures and programs offer subsidies for the amounts normally paid by certain programs. This kind of support is not always specifically associated with organic farming, but indirectly contributes to its development.

In Quebec, several support measures have already proven their worth, notably through the Organic Farming Conversion Support Program and the enhancement of the Advisory Services Program, both offered by MAPAQ. Although Quebec is an example in North America in terms of regulation, support for conversion, control and promotion, Quebec farm businesses do not benefit from direct support for maintaining organic production, unlike their counterparts in other jurisdictions, with which they must compete in the markets.

The benchmarking of the support for a typical farm according to its location of operations illustrates an unequal distribution of the available assistance. It should be remembered that the 2014-2018 Quebec Organic Sector Collective Development Strategy was intended to encourage

governments to provide support not only for the creation and conversion of businesses to organic farming, but also for their maintenance<sup>99</sup>.

Finally, this study reveals that in all the jurisdictions analyzed, the budgets devoted directly or indirectly to the development of organic agriculture are clearly evolving. In general, assistance programs in favour of maintaining good practices are multiplying in order to sustain agriculture that meets the challenges of sustainable development. Analysis of the programs in force shows that support for maintaining agri-environmental practices based on rewarding positive externalities is not limited to organic farming but extends to all farm businesses that implement good practices. In other words, the mere fact of holding organic certification does not justify explicit help to businesses with regard to their impact on the environment.

Thus, more generalized support is largely established to reward farm businesses for environmental services provided and the resilience of their production systems. As our analysis shows, several countries such as Switzerland and Germany have a single budget to support sustainable agriculture, which includes organic production. In these cases, the assistance programs are more in favour of management practices for nitrogen, water resources, biodiversity, or even the conditions provided for livestock. In other words, this approach proposes that government support for organic farming be seen as an effective way to achieve more widespread adoption of sustainable practices.

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<sup>99</sup> Filière biologique du Québec, 2014.

## ANNEXES

### Annex 1: Assumptions for establishing a typical organic dairy farm

Advice	Amount	Reference
Conversion (number of hours/year)	50	Personal communication
Maintenance (number of hours/year)	40	Personal communication
Creation (number of hours/year)	100	Personal communication
Hourly cost (\$/hour)	130	Personal communication
Certification	Amount	Reference
Cost of certification (\$/year)	1,200	OMAFRA, 2010
Investments (creation and conversion)		
Investment in fences and tillage tools (\$)	50,000	CETAB+, 2018
Agri-environmental measures	Amount	Reference
Establishment of cover crops (number of ha)	140	
Establishment of cover crops (\$/ha)	90	CRAAQ, 2016
Installation of a windbreak hedge (linear meter)	800	
Installation of a windbreak hedge (\$/linear meter)	12	AAFC, 2015

## Annex 2: Assumptions in the case of a vegetable farm

Advice	Amount	Reference
Conversion (number of hours/year)	50	Personal communication
Maintenance (number of hours/year)	40	Personal communication
Creation (number of hours/year)	100	Personal communication
Hourly cost (\$/hour)	130	Personal communication
Certification	Amount	Reference
Cost of certification (\$/year)	1,500	MAPAQ, 2013
Investments		
Construction of 1,000 m <sup>2</sup> of heated greenhouses (\$)	240,000	UPA, 2018
Agri-environmental measures	Amount	Reference
Establishment of cover crops (number of ha)	3.2	
Establishment of cover crops (\$/ha)	90	CRAAQ, 2016
Installation of a windbreak hedge (linear meter)	800	
Installation of a windbreak hedge (\$/linear meter)	12	AAC, 2015

### Annex 3: Assumptions in the case of a field crop farm

Advice	Amount	Reference
Conversion (number of hours/year)	50	Personal communication
Maintenance (number of hours/year)	30	Personal communication
Creation (number of hours/year)	100	Personal communication
Hourly cost (\$/hour)	130	Personal communication
Certification	Amount	Reference
Cost of certification (\$/year)	1,200	OMAFRA, 2010
Investments (creation and conversion)		
Tillage tools (\$)	78,000	CETAB+, 2018
Agri-environmental measures	Amount	Reference
Establishment of cover crops (number of ha)	240	
Establishment of cover crops (\$/ha)	90	CRAAQ, 2016
Installation of a windbreak hedge (linear meter)	800	
Installation of a windbreak hedge (\$/linear meter)	12	AAC, 2015

#### Annex 4: Simulation of conversion support measures in the dairy farm model

Conversion support	Quebec		Minnesota		California	
Conversion of forage areas	\$25/ha/year	2,500	Not applicable	-	Not applicable	-
Conversion of cereal areas	\$100/ha/year	4,000	Not applicable	-	Not applicable	-
Conversion of pasture areas	\$25/ha/year	725	Not applicable	-	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	5,525	During pre-certification, reimbursed to 75% Limited to \$990 per year	990	Not applicable	-
Investment in fencing and tillage tools	Reimbursed to 50% Limited to \$20 K	20,000	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	6,665	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	CSP \$0.52/m and EQIP \$4.6/m	4,096	CSP \$0.74/m and EQIP \$25.7/m	21,152
Placement of cover crop	Reimbursed to 90% Limited to \$3 K/year	3,000	CSP reimbursement of \$34/ha and EQIP \$245/ha	39,060	CSP reimbursement of \$33/ha and EQIP \$242/ha	38,500
Certification	Not applicable	-	Reimbursed to 75% Limited to \$990	900	Reimbursed to 75% Limited to \$990	900
<b>Total conversion support per year</b>		51,055		45,046		60,552
<b>Support per hectare per year (year of investment)</b>		302		267		358
<b>Support per hectare per year (outside of investment)</b>		93		242		233

Conversion support	Quebec		Germany		Denmark	
Conversion of forage areas	\$25/ha/year	2,500	\$370/ha/year	37,000	\$408/ha/year	40,800
Conversion of cereal areas	\$100/ha/year	4,000	\$370/ha/year	14,800	\$408/ha/year	16,320
Conversion of pasture areas	\$25/ha/year	725	\$370/ha/year	10,730	\$408/ha/year	11,832
Advisory services fees	Reimbursed to 85% Limited to \$30 K	5,525	Not applicable	-	Not applicable	-
Investment in fencing and tillage tools	Reimbursed to 50% Limited to \$20 K Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	20,000  6,665	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	Not applicable	-	Information not available	-
Placement of cover crop	Reimbursed to 90% Limited to \$3 K/year	3,000	\$160/ha/year if cover crop, but \$400/ha/year if > 4 different crops and 10% pulses minimum, nitrogen and phytosanitary management	56,000	Information not available	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total conversion support per year</b>		51,055		118,530		68,952
<b>Support per hectare per year (year of investment)</b>		302		701		408
<b>Support per hectare per year (outside of investment)</b>		93		701		408

Conversion support	Quebec		France		Switzerland	
Conversion of forage areas	\$25/ha/year	2,500	\$210/ha/year	21,000	\$265/ha/year	26,500
Conversion of cereal areas	\$100/ha/year	4,000	\$475/ha/year	19,000	\$1580/ha/year	63,200
Conversion of pasture areas	\$25/ha/year	725	\$210/ha/year	6,090	\$265/ha/year	7,685
Advisory services fees	Reimbursed to 85% Limited to \$30 K	5,525	Not applicable	-	Not applicable	-
Investment in fencing and tillage tools	Reimbursed to 50% Limited to \$20 K Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	20,000  6,665	Not applicable  Not applicable	-  -	Not applicable  Not applicable	-  -
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	Not applicable	-	Not specific to organic, \$12/m, limited to 1,000 m	9,600
Placement of cover crop	Reimbursed to 90% Limited to \$3 K/year	3,000	\$200/ha/year if rotation > 3 different crops and minimum %5 pulses, nitrogen management, 50% less phytosanitary and twice as much agri- ecological infrastructure as local average	28,000	Not specific to organic; \$86/ha for permanent grasslands	8,600
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total conversion support per year</b>		51,055		77,590		115,585
<b>Support per hectare per year (year of investment)</b>		302		459		684
<b>Support per hectare per year (outside of investment)</b>		93		438		627

## Annex 5: Simulation of maintenance support measures in the dairy farm model

Maintenance support	Quebec		Minnesota		California	
Maintenance of forage areas	Not applicable	-	Not applicable	-	Not applicable	-
Maintenance of cereal areas	Not applicable	-	Not applicable	-	Not applicable	-
Maintenance of pasture areas	Not applicable	-	Not applicable	-	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	4,420	Not applicable	-	Not applicable	-
Investment in fencing and tillage tools	Reimbursed to 50% Limited to \$20 K	-	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	-	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	CSP \$0.52/m and EQIP \$4.6/m	4,096	CSP \$0.74/m and EQIP \$25.7/m	21,152
Placement of cover crop	Reimbursed to 90% Limited to \$3 K/year	3,000	CSP reimbursement of \$34/ha and EQIP \$245/ha	39,060	CSP reimbursement of \$33/ha and EQIP \$242/ha	38,500
Certification	Not applicable	-	Reimbursed to 75% Limited to \$990	900	Reimbursed to 75% Limited to \$990	900
<b>Total maintenance support per year</b>		16,060		44,056		60,552
<b>Support per hectare per year (year of investment)</b>		95		261		358
<b>Support per hectare per year (outside of investment)</b>		44		236		233

Maintenance support	Quebec		Germany		Denmark	
Maintenance of forage areas	Not applicable	-	\$305/ha/year	30,500	\$172/ha/year	17,200
Maintenance of cereal areas	Not applicable	-	\$305/ha/year	12,200	\$172/ha/year	6,880
Maintenance of pasture areas	Not applicable	-	\$305/ha/year	8,845	\$172/ha/year	4,988
Advisory services fees	Reimbursed to 85% Limited to \$30 K	4,420	Not applicable	-	Not applicable	-
Investment in fencing and tillage tools	Reimbursed to 50% Limited to \$20 K	-	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	-	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	Not applicable	-	Information not available	-
Placement of cover crop	Reimbursed to 90% Limited to \$3 K/year	3,000	\$160/ha/year if cover crop, but \$400/ha/year if > 4 different crops and 10% pulses minimum, nitrogen and phytosanitary management	56,000	Information not available	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total maintenance support per year</b>		16,060		107,545		29,068
<b>Support per hectare per year (year of investment)</b>		95		636		172
<b>Support per hectare per year (outside of investment)</b>		44		636		172

Maintenance support	Quebec		France		Switzerland	
Maintenance of forage areas	Not applicable	-	\$130/ha/year	13,000	Not applicable	-
Maintenance of cereal areas	Not applicable	-	\$225/ha/year	10,200	Not applicable	-
Maintenance of pasture areas	Not applicable	-	\$130/ha/year	3,770	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	4,420	Not applicable	-	Not applicable	-
Investment in fencing and tillage tools	Reimbursed to 50% Limited to \$20 K	-	Tax credit	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	-	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	Not applicable	-	Not specific to organic, \$12/m, limited to 1,000 m	9,600
Placement of cover crop	Reimbursed to 90% Limited to \$3 K/year	3,000	\$200/ha/year if rotation > 3 different crops and minimum %5 pulses, nitrogen management, 50% less phytosanitary and twice as much agri-ecological infrastructure as local average	28,000	Not specific to organic; \$86/ha for permanent grasslands	8,600
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total maintenance support per year</b>		16,060		54,970		18,200
<b>Support per hectare per year (year of investment)</b>		95		325		108
<b>Support per hectare per year (outside of investment)</b>		44		325		51

## Annex 6: Simulation of creation support measures in the dairy farm model

Creation support	Quebec		Minnesota		California	
Creation of forage areas	\$25/ha/year	2,500	Not applicable	-	Not applicable	-
Creation of cereal areas	\$100/ha/year	4,000	Not applicable	-	Not applicable	-
Creation of pasture areas	\$25/ha/year	725	Not applicable	-	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	11,050	During pre-certification, reimbursed to 75%, Limited to \$990/year	990	Not applicable	-
Investment in fencing and tillage tools	Reimbursed to 50% Limited to \$20 K	-	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	6,665	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	CSP \$0.52/m and EQIP \$4.6/m	4,096	CSP \$0.74/m and EQIP \$25.7/m	21,152
Placement of cover crop	Reimbursed to 90% Limited to \$3 K/year	3,000	CSP reimbursement of \$34/ha and EQIP \$245/ha	39,060	CSP reimbursement of \$33/ha and EQIP \$242/ha	38,500
Certification	Not applicable	-	Reimbursed to 75% Limited to \$990	900	Reimbursed to 75% Limited to \$990	900
<b>Total creation support per year</b>		56,580		45,046		60,552
<b>Support per hectare per year (year of investment)</b>		335		267		358
<b>Support per hectare per year (outside of investment)</b>		126		242		233

Creation support	Quebec		Germany		Denmark	
Creation of forage areas	\$25/ha/year	2,500	\$370/ha/year	37,000	\$408/ha/year	40,800
Creation of cereal areas	\$100/ha/year	4,000	\$370/ha/year	14,800	\$408/ha/year	16,320
Creation of pasture areas	\$25/ha/year	725	\$370/ha/year	10,730	\$408/ha/year	11,832
Advisory services fees	Reimbursed to 85% Limited to \$30 K	11,050	Not applicable	-	Not applicable	-
Investment in fencing and tillage tools	Reimbursed to 50% Limited to \$20 K	20,000	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	6,665	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	Not applicable	-	Information not available	-
Placement of cover crop	Reimbursed to 90% Limited to \$3 K/year	3,000	\$160/ha/year if cover crop, but \$400/ha/year if > 4 different crops and 10% pulses minimum, nitrogen and phytosanitary management	56,000	Information not available	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total creation support per year</b>		56,580		118,530		68,952
<b>Support per hectare per year (year of investment)</b>		335		701		408
<b>Support per hectare per year (outside of investment)</b>		126		701		408

Creation support	Quebec		France		Switzerland	
Creation of forage areas	\$25/ha/year	2,500	\$210/ha/year	21,000	\$265/ha/year	-
Creation of cereal areas	\$100/ha/year	4,000	\$475/ha/year	19,000	\$1580/ha/year	-
Creation of pasture areas	\$25/ha/year	725	\$210/ha/year	6,090	\$265/ha/year	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	11,050	Not applicable	-	Not applicable	-
Investment in fencing and tillage tools	Reimbursed to 50% Limited to \$20 K	20,000	Tax credit	3,500	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	6,665	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	Not applicable	-	Not specific to organic, \$12/m, limited to 1,000 m	9,600
Placement of cover crop	Reimbursed to 90% Limited to \$3 K/year	3,000	\$200/ha/year if rotation > 3 different crops and minimum %5 pulses, nitrogen management, 50% less phytosanitary and twice as much agri- ecological infrastructure as local average	28,000	Not specific to organic; \$86/ha for permanent grasslands	8,600
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total creation support per year</b>		56,580		77,590		115,585
<b>Support per hectare per year (year of investment)</b>		335		459		684
<b>Support per hectare per year (outside of investment)</b>		126		438		627

## Annex 7: Simulation of conversion support measures in the vegetable farm model

Conversion support	Quebec		Minnesota		California	
Conversion of areas to vegetable production	\$2,500/ha/year + \$0.5/m2 greenhouse	8,500	Not applicable	-	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	5,525	During pre-certification, reimbursed to 75%, Limited to \$990/year	990	Not applicable	-
Investment in 1,000 m2 of heated greenhouses + field equipment	Reimbursed to 50% Limited to \$20 K	20,000	Reimbursement of \$4.13/m2 and \$4,550 per heating system	13,230	Reimbursement of \$4.13/m2 and \$4,550 per heating system	13,230
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	19,995	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	CSP \$0.52/m and EQIP \$4.6/m	4,096	CSP \$0.74/m and EQIP \$25.7/m	21,152
Placement of cover crop	Reimbursed to 90% Limited to \$40 K (10 ha min.)	-	CSP reimbursement of \$34/ha and EQIP \$245/ha	893	CSP reimbursement of \$33/ha and EQIP \$242/ha	880
Certification	Not applicable	-	Reimbursed to 75% Limited to \$990	990	Reimbursed to 75% Limited to \$990	990
<b>Total conversion support per year</b>		62,660		20,199		36,252
<b>Support per hectare per year (year of investment)</b>		19,581		6,312		11,329
<b>Support per hectare per year (outside of investment)</b>		4,383		898		584

Conversion support	Quebec		Germany		Denmark	
Conversion of areas to vegetable production	\$2,500/ha/year + \$0.5/m2 greenhouse	8,500	\$860/ha/year	2,752	\$408/ha/year	1,306
Advisory services fees	Reimbursed to 85% Limited to \$30 K	5,525	Not applicable	-	Not applicable	-
Investment in 1,000 m2 of heated greenhouses + field equipment	Reimbursed to 50% Limited to \$20 K	20,000	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	19,995	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	Not applicable	-	Not applicable	-
Placement of cover crop	Reimbursed to 90% Limited to \$40 K (10 ha min.)	-	\$160/ha/year if cover crop, but \$400/ha/year if > 4 different crops and 10% pulses minimum, nitrogen and phytosanitary management	1,280	Not applicable	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total conversion support per year</b>		62,660		4,032		1,306
<b>Support per hectare per year (year of investment)</b>		19,581		1,260		408
<b>Support per hectare per year (outside of investment)</b>		4,383		1,260		408

Conversion support	Quebec		France		Switzerland	
Conversion of areas to vegetable production	\$2,500/ha/year + \$0.5/m <sup>2</sup> greenhouse	8,500	\$1,300/ha/year	4,160	\$2,110/ha/year	\$6,752
Advisory services fees	Reimbursed to 85% Limited to \$30 K	5,525	Not applicable	-	Not applicable	-
Investment in 1,000 m <sup>2</sup> of heated greenhouses + field equipment	Reimbursed to 50% Limited to \$20 K	20,000	Tax credit	3,500	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	19,995	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	Not applicable	-	Not specific to organic; \$12/m, limited to 1,000 m	9,600
Placement of cover crop	Reimbursed to 90% Limited to \$40 K (10 ha min.)	-	Not applicable	-	Not specific to organic; \$86/ha for permanent grasslands	275
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total conversion support per year</b>		62,660		7,660		16,627
<b>Support per hectare per year (year of investment)</b>		19,581		2,394		5,196
<b>Support per hectare per year (outside of investment)</b>		4,383		1,300		2,196

## Annex 8: Simulation of maintenance support measures in the vegetable farm model

Maintenance support	Quebec		Minnesota		California	
Maintenance vegetable production areas	Not applicable	-	Not applicable	-	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	4,420	Not applicable	-	Not applicable	-
Investment in 1,000 m2 of heated greenhouses	Reimbursed to 50% Limited to \$20 K	20,000	Reimbursement of \$4.13/m2 and \$4,550 per heating system	13,230	Reimbursement of \$4.13/m2 and \$4,550 per heating system	13,230
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	19,995	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	CSP \$0.52/m and EQIP \$4.6/m	4,096	CSP \$0.74/m and EQIP \$25.7/m	21,152
Placement of cover crop	Reimbursed to 90% Limited to \$40 K (10 ha min.)	-	CSP reimbursement of \$34/ha and EQIP \$245/ha	893	CSP reimbursement of \$33/ha and EQIP \$242/ha	880
Certification	Not applicable	-	Reimbursed to 75% Limited to \$990	990	Reimbursed to 75% Limited to \$990	990
<b>Total maintenance support per year</b>		53,055		19,209		36,252
<b>Support per hectare per year (year of investment)</b>		16,580		6,003		11,329
<b>Support per hectare per year (outside of investment)</b>		1,381		588		584

Maintenance support	Quebec		Germany		Denmark	
Maintenance of vegetable production areas	Not applicable	-	\$530/ha/year	1,696	\$172/ha/year	550
Advisory services fees	Reimbursed to 85% Limited to \$30 K	4,420	Not applicable	-	Not applicable	-
Investment in 1,000 m2 of heated greenhouses	Reimbursed to 50% Limited to \$20 K	20,000	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	19,995	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$20 K	8,640	Not applicable	-	Not applicable	-
Placement of cover crop	Reimbursed to 90% Limited to \$40 K (10 ha min.)	-	\$160/ha/year if cover crop, but \$400/ha/year if > 4 different crops and 10% pulses minimum, nitrogen and phytosanitary management	1,280	Not applicable	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total maintenance support per year</b>		62,660		4,032		1,306
<b>Support per hectare per year (year of investment)</b>		19,581		1,260		408
<b>Support per hectare per year (outside of investment)</b>		4,383		1,260		408

Maintenance support	Quebec		France		Switzerland	
Maintenance of vegetable production areas	Not applicable	-	\$900/ha/year	2,880	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	4,420	Not applicable	-	Not applicable	-
Investment in 1,000 m <sup>2</sup> of heated greenhouses	Reimbursed to 50% Limited to \$20 K	20,000	Tax credit	3,500	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	19,995	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$40 K	8,640	Not applicable	-	Not specific to organic; \$12/m, limited to 1,000 m	9,600
Placement of cover crop	Reimbursed to 90% Limited to \$40 K (10 ha min.)	-	Not applicable	-	Not specific to organic; \$86/ha for permanent grasslands	275
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total maintenance support per year</b>		53,055		6,380		9,875
<b>Support per hectare per year (year of investment)</b>		16,580		1,994		3,086
<b>Support per hectare per year (outside of investment)</b>		1,381		900		86

## Annex 9: Simulation of creation support measures in the vegetable farm model

Creation support	Quebec		Minnesota		California	
Creation of vegetable production areas	\$2,500/ha/year + \$0.5/m2 greenhouse	8,500	Not applicable	-	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	11,050	During pre-certification; Reimbursed to 75% limited to \$990/year	990	Not applicable	-
Investment in 1,000 m2 of heated greenhouses	Reimbursed to 50% Limited to \$20 K	20,000	Reimbursement of \$4.13/m2 and \$4,550 per heating system	13,230	Reimbursement of \$4.13/m2 and \$4,550 per heating system	13,230
	Investment support \$13.33 per \$100	19,995	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Not applicable	-	CSP \$0.52/m and EQIP \$4.6/m	4,096	CSP \$0.74/m and EQIP \$25.7/m	21,152
Placement of cover crop	Not applicable	-	CSP reimbursement of \$34/ha and EQIP \$245/ha	893	CSP reimbursement of \$33/ha and EQIP \$242/ha	880
Purchase of crop-planning software	Reimbursed to 50% Limited to \$25 K	-	Not applicable	-	Not applicable	-
Certification	Not applicable	-	Reimbursed to 75% Limited to \$990	990	Reimbursed to 75% Limited to \$990	990
<b>Total creation support per year</b>		59,545		20,199		36,252
<b>Support per hectare per year (year of investment)</b>		18,608		6,312		11,329
<b>Support per hectare per year (outside of investment)</b>		6,109		898		584

Creation support	Quebec		Germany		Denmark	
Creation of vegetable production areas	\$2,500/ha/year + \$0.5/m2 greenhouse	8,500	\$860/ha/year	2,752	\$408/ha/year	1,306
Advisory services fees	Reimbursed to 85% Limited to \$30 K	11,050	Not applicable	-	Not applicable	-
Investment in 1,000 m2 of heated greenhouses	Reimbursed to 50% Limited to \$20 K	20,000	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	19,995	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Not applicable	-	Not applicable	-	Not applicable	-
Placement of cover crop			\$160/ha/year if cover crop, but \$400/ha/year if > 4 different crops and 10% pulses minimum, nitrogen and phytosanitary management			
	Not applicable	-		1,280	Not applicable	-
Purchase of crop-planning software	Reimbursed to 50% Limited to \$25 K	-	Not applicable	-	Not applicable	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total creation support per year</b>		59,545		4,032		1,306
<b>Support per hectare per year (year of investment)</b>		18,608		1,260		408
<b>Support per hectare per year (outside of investment)</b>		6,109		1,260		408

Creation support	Quebec		France		Switzerland	
Creation of vegetable production areas	\$2,500/ha/year + \$0.5/m <sup>2</sup> greenhouse	8,500	\$1,300/ha/year	4,160	\$2,110/ha/year	6,752
Advisory services fees	Reimbursed to 85% Limited to \$30 K	11,050	Not applicable	-	Not applicable	-
Investment in 1,000 m <sup>2</sup> of heated greenhouses	Reimbursed to 50% Limited to \$20 K	20,000	Tax credit	3,500	Not applicable	-
	Investment support \$13.33 per \$100	19,995	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Not applicable	-	Not applicable	-	Not specific to organic; \$12/m, limited to 1,000 m	9,600
Placement of cover crop	Not applicable	-	Not applicable	-	Not specific to organic; \$86/ha for permanent grasslands	275
Purchase of crop-planning software	Reimbursed to 50% Limited to \$25 K	-	Not applicable	-	Not applicable	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total creation support per year</b>		59,545		7,660		16,627
<b>Support per hectare per year (year of investment)</b>		18,608		2,394		5,196
<b>Support per hectare per year (outside of investment)</b>		6,109		1,300		2,196

## Annex 10: Simulation of conversion support measures in the field crop farm model

Conversion support	Quebec		Minnesota		California	
Conversion of areas to cereals/pulses	\$100/ha/year	24,000	Not applicable	-	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	5,525	During pre-certification; Reimbursed to 75% limited to \$990/year	990	Not applicable	-
Improvement of facilities	Reimbursed to 50% Limited to \$20 K	20,000	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loans obtained (max loan \$150 K)	10,397	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$40 K	8,640	CSP \$0.52/m and EQIP \$4.6/m	4,096	CSP \$0.74/m and EQIP \$25.7/m	21,152
Placement of cover crop	Reimbursed to 90% Limited to \$40 K	19,440	CSP reimbursement of \$34/ha and EQIP \$245/ha	66,960	CSP reimbursement of \$33/ha and EQIP \$242/ha	66,000
Certification	Not applicable	-	Reimbursed to 75% Limited to \$990	990	Reimbursed to 75% Limited to \$990	990
<b>Total conversion support per year</b>		88,002		72,946		88,052
<b>Support per hectare per year (year of investment)</b>		367		304		367
<b>Support per hectare per year (outside of investment)</b>		204		287		279

Conversion support	Quebec		Germany		Denmark	
Conversion of cereal/pulse production areas	\$100/ha/year	24,000	\$370/ha/year	88,800	\$408/ha/year	97,920
Advisory services fees	Reimbursed to 85% Limited to \$30 K	5,525	Not applicable	-	Not applicable	-
Improvement of facilities	Reimbursed to 50% Limited to \$20 K	20,000	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	10,397	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$40 K	8,640	Not applicable	-	Information not available	-
Placement of cover crop	Reimbursed to 90% Limited to \$40 K	19,440	\$160/ha/year if cover crop, but \$400/ha/year if > 4 different crops and 10% pulses minimum, nitrogen and phytosanitary management	96,000	Information not available	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total conversion support per year</b>		<b>88,002</b>		<b>184,800</b>		<b>97,920</b>
<b>Support per hectare per year (year of investment)</b>		<b>367</b>		<b>770</b>		<b>408</b>
<b>Support per hectare per year (outside of investment)</b>		<b>204</b>		<b>770</b>		<b>408</b>

Conversion support	Quebec		France		Switzerland	
Conversion of cereal/pulse production areas	\$100/ha/year	24,000	\$475/ha/year	114,000	\$1,580/ha/year	379,200
Advisory services fees	Reimbursed to 85% Limited to \$30 K	5,525	Not applicable	-	Not applicable	-
Improvement of facilities	Reimbursed to 50% Limited to \$20 K	20,000	Tax credit	3,500	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	10,397	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$40 K	-	Not applicable	-	Not specific to organic; \$12/m, limited to 1,000 m	9,600
Placement of cover crop	Reimbursed to 90% Limited to \$40 K	19,440	\$200/ha/year if rotation > 3 different crops and minimum %5 pulses, nitrogen management, 50% less phytosanitary and twice as much agri-ecological infrastructure as local average	48,000	Not specific to organic; \$86/ha for permanent grasslands	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total conversion support per year</b>		88,002		165,500		388,800
<b>Support per hectare per year (year of investment)</b>		367		690		1,620
<b>Support per hectare per year (outside of investment)</b>		204		675		1,580

## Annex 11: Simulation of maintenance support measures in the field crop farm model

Maintenance support	Quebec		Minnesota		California	
Maintenance of cereal/pulse production areas	Not applicable	-	Not applicable	-	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	3,315	Not applicable	-	Not applicable	-
Improvement of facilities	Reimbursed to 50% Limited to \$20 K	-	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loans obtained	-	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$40 K	8,640	CSP \$0.52/m and EQIP \$4.6/m	4,096	CSP \$0.74/m and EQIP \$25.7/m	21,152
Placement of cover crop	Reimbursed to 90% Limited to \$40 K	19,440	CSP reimbursement of \$34/ha and EQIP \$245/ha	66,960	CSP reimbursement of \$33/ha and EQIP \$242/ha	66,000
Certification	Not applicable	-	Reimbursed to 75% Limited to \$990	990	Reimbursed to 75% Limited to \$990	990
<b>Total maintenance support per year</b>		31,395		71,956		88,052
<b>Support per hectare per year (year of investment)</b>		131		300		367
<b>Support per hectare per year (outside of investment)</b>		95		283		279

Maintenance support	Quebec		Germany		Denmark	
Maintenance of cereal/pulse production areas	Not applicable	-	\$305/ha/year	73,200	\$172/ha/year	41,280
Advisory services fees	Reimbursed to 85% Limited to \$30 K	3,315	Not applicable	-	Not applicable	-
Improvement of facilities	Reimbursed to 50% Limited to \$20 K	-	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained	-	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$40 K	8,640	Not applicable	-	Information not available	-
Placement of cover crop	Reimbursed to 90% Limited to \$40 K	19,440	\$160/ha/year if cover crop, but \$400/ha/year if > 4 different crops and 10% pulses minimum, nitrogen and phytosanitary management	96,000	Information not available	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total maintenance support per year</b>		31,395		169,200		41,280
<b>Support per hectare per year (year of investment)</b>		131		705		172
<b>Support per hectare per year (outside of investment)</b>		95		705		172

Maintenance support	Quebec		France		Switzerland	
Maintenance of cereal/pulse production areas	Not applicable	-	\$225/ha/year	61,200	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	5,525	Not applicable	-	Not applicable	-
Improvement of facilities	Reimbursed to 50% Limited to \$20 K	-	Tax credit	3,500	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained	10,397	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Reimbursed to 90% Limited to \$40 K	8,640	Not applicable	-	Not specific to organic; \$12/m, limited to 1,000 m	9,600
Placement of cover crop	Reimbursed to 90% Limited to \$40 K	19,440	\$200/ha/year if rotation > 3 different crops and minimum %5 pulses, nitrogen management, 50% less phytosanitary and twice as much agri-ecological infrastructure as local average	48,000	Not specific to organic; \$86/ha for permanent grasslands	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total maintenance support per year</b>		31,395		112,700		9,600
<b>Support per hectare per year (year of investment)</b>		131		470		40
<b>Support per hectare per year (outside of investment)</b>		95		455		-

## Annex 12: Simulation of creation support measures in the field crop farm model

Creation support	Quebec		Minnesota		California	
Creation of cereal/pulse production areas	\$100/ha/year	24,000	Not applicable	-	Not applicable	-
Advisory services fees	Reimbursed to 85% Limited to \$30 K	11,050	During pre-certification Reimbursed to 75% Limited to \$990/year	990	Not applicable	-
Improvement of facilities	Reimbursed to 50% Limited to \$20 K	20,000	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loans obtained (max loan \$150 K)	10,397	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Not applicable	-	CSP \$0.52/m and EQUIP \$4.6/m	4,096	CSP \$0.74/m and EQUIP \$25.7/m	21,152
Placement of cover crop	Not applicable	-	CSP reimbursement of \$34/ha and EQUIP \$245/ha	66,960	CSP reimbursement of \$33/ha and EQUIP \$242/ha	66,000
Certification	Not applicable	-	Reimbursed to 75% Limited to \$990	990	Reimbursed to 75% Limited to \$990	990
<b>Total creation support per year</b>		65,447		72,946		88,052
<b>Support per hectare per year (year of investment)</b>		273		304		367
<b>Support per hectare per year (outside of investment)</b>		146		287		279

Creation support	Quebec		Germany		Denmark	
Creation of cereal/pulse production areas	\$100/ha/year	24,000	\$370/ha/year	88,800	\$408/ha/year	97,920
Advisory services fees	Reimbursed to 85% Limited to \$30 K	11,050	Not applicable	-	Not applicable	-
Improvement of facilities	Reimbursed to 50% Limited to \$20 K	20,000	Not applicable	-	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	10,397	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Not applicable	-	Not applicable	-	Information not available	-
Placement of cover crop	Not applicable	-	\$160/ha/year if cover crop, but \$400/ha/year if > 4 different crops and 10% pulses minimum, nitrogen and phytosanitary management	96,000	Information not available	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total creation support per year</b>		65,447		184,800		97,920
<b>Support per hectare per year (year of investment)</b>		273		770		408
<b>Support per hectare per year (outside of investment)</b>		146		770		408

Creation support	Quebec		France		Switzerland	
Creation of cereal/pulse production areas	\$100/ha/year	24,000	\$475/ha/year	114,000	\$1,580/ha/year	379,200
Advisory services fees	Reimbursed to 85% Limited to \$30 K	11,050	Not applicable	-	Not applicable	-
Improvement of facilities	Reimbursed to 50% Limited to \$20 K	20,000	Tax credit	3,500	Not applicable	-
	Investment support \$13.33 per \$100 of loan obtained (max loan \$150 K)	10,397	Not applicable	-	Not applicable	-
Installation of a windbreak hedge	Not applicable	-	Not applicable	-	Not specific to organic; \$12/m, limited to 1,000 m	9,600
Placement of cover crop	Not applicable	-	\$200/ha/year if rotation > 3 different crops and minimum %5 pulses, nitrogen management, 50% less phytosanitary and twice as much agri- ecological infrastructure as local average	48,000	Not specific to organic; \$86/ha for permanent grasslands	-
Certification	Not applicable	-	Not applicable	-	Not applicable	-
<b>Total creation support per year</b>		65,447		165,500		388,800
<b>Support per hectare per year (year of investment)</b>		273		690		1,620
<b>Support per hectare per year (outside of investment)</b>		146		675		1,580