



Farmer's Toolbox for Integrated Pest Management

AGRI/2020/OP/0003

Case study – Quebec

Final conference

15 September 2022

Overarching objective

Investigate and report on what Quebec has done over the last decade to reduce its pesticide use and increase the adoption of IPM practices....



...which will help identifying other practices and approaches for the uptake of IPM by farmers than the ones developed in the EU.

Research questions

- *What are the **policies and strategies** in place in Quebec to reduce pesticides use and increase IPM adoption and what are the results of these policies and strategies?*
- *What is the **approach to IPM** in Quebec and what are the means in place to support the adoption of IPM and the reduction of pesticide use?*
- *What are the **main barriers** to IPM adoption in Quebec?*
- *What are the **solutions** to overcome these barriers and what are the future developments in Quebec's IPM strategy?*

Methodology



Desk research based on sources recommended and provided by the Canadian Agriculture Ministry and the Quebec Ministry (e.g. provincial strategies, policy evaluations, reports, studies, etc.)



In-depth interview with representatives of the Quebec Ministry for Agriculture (MAPAQ) involved with IPM in Quebec and with a representative of the Canadian Centre for Pest Management

Background and regulatory framework

Regulatory framework

Agriculture is a **shared federal-provincial responsibility** in Canada. Jurisdiction over the management of pesticide use is shared between the federal government, territorial and municipal governments:

- ✓ At **federal level**, the Canadian government (Health Canada's Pest Management Regulatory Agency (PMRA) controls the registration, marketing and labelling of pesticides (2002 Pest Control Products Act and its regulations)
- ✓ In Quebec, at the **provincial level**, the Ministry for the Environment and for Combating Climate Change can regulate the sale, use, storage, transportation, and disposal of federally registered pesticides. Quebec's provincial government has the authority to restrict or prohibit the use of registered products within their jurisdiction

Background and regulatory framework

Regulatory framework

In Canada, **the adoption of IPM by farmers is voluntary**; The federal and provincial authorities each have their defined role and responsibility when it comes to the support, delivery, and implementation of IPM.

- ✓ The **federal government** mainly establishes and delivers policies and programmes and sets overall growth and sustainability goals

- ✓ At **provincial level**, The Quebec Ministry for Agriculture, Fisheries and Food (MAPAQ) is responsible for supporting farmers in their activities to reduce the use and risks of pesticides. Specifically, provincial governments:
 - ✓ Set their own goals and targets and develop their own strategic plans and approaches and deliver their own IPM
 - ✓ Have their own research and development (R&D) programmes to support IPM tools and practices.
 - ✓ Supports pest surveillance programmes and provide expert guidance and
 - ✓ Pesticide training courses

Activities and results – Quebec’s Phytosanitary Strategy 2011-2021

- ✓ In 2008, MAPAQ and its partners in the agriculture, environment and health sectors decided to initiate a new process to define a new Phytosanitary Strategy for the 2011-2021 period.

- ✓ Two overarching objectives:
 - ✓ Reduce the health and environmental risks associated with the use of pesticides in agriculture by 25% by 2021.
 - ✓ Increase the adoption of IPM, by:
 - Accelerating the development of knowledge in IPM
 - Strengthening the adoption of agricultural practices that promotes IPM
 - Accelerating knowledge transfer and encourage the dissemination of information.

- ✓ The strategy is put into operation through Actions Plans to implement, track and evaluate the impact of the strategy.

- ✓ In 2018, a new concept of “agronomic prescription” (by an agronomist member of the Quebec Agronomists’ Order) was introduced into Quebec pesticides regulations

Activities and results – Identified barriers to IPM adoption

A report from CAPERN published in February 2020 identified a number of **barriers** to the adoption of alternative practices, including IPM practices, despite their existence for several types of crops and pests, e.g.:

- ✓ Ineffectiveness of the means put in place to support IPM adoption → producers may lack adequate support to help them implement IPM
- ✓ Financial barriers and lack of economic incentive + risks of financial loss and the lack of perceived benefits for producers
- ✓ Knowledge transfer and information dissemination obstacles → the technical complexity of IPM as a limit to its use
- ✓ Lack of research and funding for alternative practices

Activities and results – Sustainable Agriculture Plan for 2020-2030

Based on the recommendations from the CAPERN for the Quebec government → new **Sustainable Agriculture Plan for 2020-2030**, with more ambitious targets and new objectives, i.e.:

- ✓ To reduce by 500.000kg pesticides sales.
- ✓ To reduce by 40% the health and environmental risks associated with the use of pesticides.

Going beyond the objectives of the Phytosanitary Strategy, the Plan not only focus on further reducing the pesticide risks, it also aim to reduce the use of pesticides, a novelty compared to the Strategy 2011-2021.

Activities and results – Sustainable Agriculture Plan for 2020-2030

- ✓ Great effort to involve all stakeholders (e.g. producers, regional authorities, etc.) in its implementation.
- ✓ Producers' association were involved in the establishment of the Plan and made non-binding commitments for themselves to reach within the next ten years. In total, 49 commitments were put forward by 27 producer associations.
- ✓ The government will provide funding to support the actions to which they have committed to.

Activities and results

The new Plan will put in place new means to support producers in their approach to reduce pesticides use, including:

- ✓ A **reward mechanism (“Prime-Vert” programme) for environmental practices based on the achievement of results and on the risks shared** (about 70 million dollars will be dedicated to this mechanism) → *Producers are invited to contribute to the development of the mechanism via a pilot project launched in 2021. The results of the pilot project will feed into the design of the mechanism.*
- ✓ A **structured pathway for continuing education** in the agri-environment for producers (about 25 million dollars)
- ✓ Increased **professional support** (including digital skills) – (about 25 million dollars will be dedicated to professional support, continuous education and technological transfer).
- ✓ More pilot projects

Activities and results – IPM implementation in Quebec

Monitoring the uptake of IPM

The evolution of the adoption of IPM practices is assessed through its **IPM indicator** (*Indicateur de la GIEC*).

This indicator takes the form of a score – from 0 to 10 – that shows the level of adoption of IPM practices in various sectors. It is divided into four levels :

- ✓ Transition to IPM (0 to 2,5): in the majority of cases, farms rarely or never use IPM practices.
- ✓ Basic IPM (2,6 to 5): In the majority of cases, farms rarely use IPM practices.
- ✓ Intermediate IPM (5,1 to 7,5): in the majority of cases, farms rarely or mostly use IPM practices.
- ✓ Advanced IPM (7,6 to 10): In the majority of cases, farms most of the time or always use IPM practices.

An evaluation of the progress in IPM adoption in the various sectors was performed in 2012 and in 2017 and 2021 (results yet not available).

Activities and results – IPM implementation in Quebec

Resources to support the uptake of IPM and the reduction of pesticide use

- ✓ **No official guidelines** for implementing IPM are issued by federal/provincial authorities, differently to the EU where Member-States must put in place such guidelines.
- ✓ In Quebec, IPM is mainly promoted through **advisory services**, and **counsellors** play a crucial role in raising awareness and promoting alternative practices to pesticide use (*=> however, it is not mandatory for farmers to have a counsellor*).
- ✓ This **counsellor system** is organised in two tiers: “first line counsellors” (certified agronomist from the Order working on the field with farmers) and “Second line counsellors” working within the MAPAQ to support the first line counsellors and involved in knowledge transfer
- ✓ The **Quebec Order of Agronomists** is issuing **directives for IPM implementation** which counsellors must follow when they provide advisory services to producers and growers (*=> the farmer can choose to follow or not*)

Activities and results – IPM implementation in Quebec

It is not possible to draw a definite causal link between the establishment of this counsellor system and the increase of IPM adoption in Quebec, however:

- ✓ the surveys performed in 2012 and 2017 as part of the monitoring of IPM adoption shows that for several sectors, IPM adoption is higher when the farmer use an independent counsellor.
- ✓ A pilot project conducted in 2017 showed that, on average, farmers were able to reduce the risks from 25 to 50% when supported by advisory services.

Activities and results – IPM implementation in Quebec

The counsellor approach is complemented by a broad range of advisory and support services put in place by the Quebec government, such as:

- ✓ The “Réseau d’avertissement phytosanitaires” (which acts as ‘warning system’)
- ✓ The online tool IRIIS, to help producers identifying or gaining more knowledge on pests.
- ✓ The crop protection diagnostic laboratory, which provides expertise and diagnosis on pests or diseases affecting crops
- ✓ SAgE-Pesticides, a free and open database which gathers all the information necessary for the proper management of pesticides, particularly the treatments to be used.
- ✓ Service Action-Regulation, which aims to improve the adjustment of crop protection sprayers to increase the quality of applications
- ✓ A pesticide information kit, which presents good pesticide management practices to protect the environment and human health, as well as Quebec Regulations

Conclusions 1/2

Various lessons can be learnt from the implementation of Quebec's phytosanitary strategy 2011-2021 which has a strong focus on increasing the uptake of IPM by farmers, i.e.:

- ✓ Identifying **clear targets** and **choosing the right indicators** to measure the progress in IPM adoption is crucial.
- ✓ **Monitoring the adoption of IPM** is a complex exercise. the methods (i.e. via a survey) and indicators used in Quebec to monitor the progress in IPM adoption can provide an overview of the general trends in agricultural practices, however they do not provide a complete overview of the IPM practices used by farmers.
- ✓ Significant efforts have been done to overcome the barriers identified, which resulted in a slow increase in IPM adoption by Quebec farmers. Yet, some of the tools proved to be ineffective or not fully effective

Conclusions 2/2

- ✓ It will be interesting to follow the upcoming developments under the new Sustainable Agriculture Strategy for 2020-2030 in Quebec and to see how Quebec is learning from its experience and how it will answer to the recommendations made by the CAPERN
- ✓ In particular, the new rewards mechanism for farmers to increase the adoption of IPM by 2030, which is under currently being developed, seems promising, and can be of inspiration for the EU.

....Thank you for your attention!