

The Projects of the Organic Science Cluster Answer Producers' Needs

An Interview with Frédéric Jobin-Lawler, an industry partner participating in the Organic Science Cluster.

Organic Agriculture Centre of Canada

As a trained biologist, Frédéric Jobin-Lawler worked for eight years as a representative for a greenhouse equipment supplier. That is, until 2009, when Jobin-Lawler bought L'Abri Végétal, a 2000 m² greenhouse in Compton, Eastern Townships, Quebec.

At the time of purchase, the greenhouse was already heated with a geothermal energy exchanger. But Jobin-Lawler had numerous questions about the system, many of which the supplier could not clearly answer. To help satisfy his curiosity and to calculate and optimize the efficiency of the system, Jobin-Lawler decided to invest funds in the Organic Science Cluster (OSC). His investment was directed towards [a project](#) under the leadership of Martine Dorais, an Agriculture and Agri-Food Canada (AAFC) researcher specializing in greenhouse production.

With Jobin-Lawler's training, a Master's degree in phytotechnics, and technology already in place his greenhouse with the capacity to compile and analyze data, the project went smoothly.

The trials and analysis that were performed as a part of the Organic Science Cluster project is rewarding, allowing Jobin-Lawler to optimize the use of his greenhouse's existing geothermal system. The research revealed that an upward adjustment in the size of the heat distribution tubes in the geothermal system raises its efficiency. Furthermore, the research also shows that air-conditioning could also be provided by a geothermal system in a semi-closed greenhouse. Reversing the role of the geothermal equipment, using it to refresh and cool the greenhouse during hot periods, could be a profitable undertaking.



“We setup a CO₂ injection system two years ago to stimulate photosynthesis. If we air-condition the greenhouse when the weather is warm, we don't have to open the roof of the greenhouse to lower the temperature; we will then prevent dissipation of CO₂ out of the greenhouse and will maintain the CO₂ level effective to stimulate photosynthesis.” L'Abri végétal hopes to build up scientific evidence to support on this experience, and this will constitute their proposal of the research in the Organic Science Cluster II.

The Abri végétal produces tomatoes, cucumbers, peppers and herbs year-round. The plants grow directly in the soil, not in containers. Jobin-Lawler reports that the quality of the soil is exceptional in Compton and that yields are very good. “We simply use composted manure with straw, plus feather meal. And it is organic,” comments Jobin-Lawler.

A scheduled routine for preparation, planting and harvesting is at the heart of Jobin-Lawler’s operation. He typically finishes harvesting one crop in mid-January. The plants are then removed, the soil tilled a rotary tiller and fertilized, and new transplants, seeded and grafted a few months previously. The next harvest is ready by the end of March.

Jobin-Lawler has invested an amount of \$10,000 annually in the Organic Science Cluster for the past 4 years, an amount that AAFC has quadrupled. “It costs a few thousand dollars, but it can generate useful information that can represent tens of thousands of dollars for the coming years. You must try. It surely does not make the producer regress.” comments the greenhouse owner, who is anxious to participate to the second round of the OSC.

“It is much more interesting to work with a team than working alone. You can get help to analyze the consequences of your management. You relate with stakeholders, researchers and suppliers, who teach you how to look at your production from another angle and to move on to the next good direction. It is very important in a sector where you always have to improve your management to face competition” concludes Jobin-Lawler.

For more information about the Organic Science Cluster, or this research project, please see http://www.oacc.info/OSC/osc_welcome.asp, Activity C.7 - Feasibility of using geothermal energy as heat and humidity control for an organic greenhouse tomato crop.

This article was written by Nicole Boudreau, Organic Federation of Canada, on behalf of the [OACC](#) with funding provided by [Canada’s Organic Science Cluster](#) (a part of the [Canadian Agri-Science Clusters Initiative](#) of Agriculture and Agri-Food Canada’s Growing Forward Policy Framework). The Organic Science Cluster is a collaborative effort led jointly by the [OACC](#), the [Organic Federation of Canada](#) and [industry partners](#). For more information: oacc@nsac.ca or 902-893-7256.