

**Protection and pollination**

The usefulness of bees in agriculture has long been proven. Here are two projects funded by the CDAQ concerning bees. One seeks to protect them, while the other aims to maximize their presence in blueberry fields to increase pollination.



**The Varroa destructor mite**

The Varroa destructor mite which attacks bees at every stage of their life cycle (larva, nymph and adult) is a major scourge of beekeeping. Mandated by the *Fédération des apiculteurs du Québec* and its various partners, researcher Pierre Giovenazzo has conducted a study at the *Centre de recherche en sciences animales de Deschambault* (CRSAD) to develop a cheap and effective method of controlling this pest. The study sought to determine the most efficacious products and their dosage and application period. The special feature of the method employed was to spray miticides through the ventilation system of the wintering chamber.

"Even though it is advisable to apply the miticide treatment in September, we believe that, when the infestation rates are low, the beekeeper can choose to apply a winter treatment because this is the ideal time to attack Varroa destructor" says Pierre Giovenazzo. "There is practically no bee reproduction in the wintering chamber and the parasite needs the bee reproductive cycle to perpetuate itself. This is the time when it is most vulnerable, without any progenitors to succeed it."

Only two means of controlling Varroa destructor are currently approved in Quebec: Apistan strips and formic acid. During the research, different products were tested, including several essential oils. However, Fluvalinate-tau proved to be the most effective. Since the treatment is applied in winter on beekeeping material not containing fresh honey, the probability of contamination is almost nonexistent. But given the unavailability of mass-produced Fluvalinate-tau in spray form, Apistan strips currently remain the most interesting option in terms of results. The study of other promising products may lead to a variety of treatments to minimize the risk of the Varroa destructor mite developing resistance.

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**Optimization of blueberry pollination by bees**

Around the end of May, the demand for rental of hives for blueberry pollination outpaces the supply. Only a few producers can take advantage of increased pollination. The *Syndicat des producteurs de bleuets du Québec* has therefore called upon a team of researchers to verify whether moving or rotating hives when blueberry bushes are in mid-bloom can improve bloom pollination and increase fruit yield.

"The primary objective was to find a way of increasing pollination without increasing the number of hives," points out Madeleine Chagnon, the project's scientific coordinator. "By moving the hives, we hoped to make the bees lose the visual reference points that led them to competing plants, thus encouraging them to stay on the blossoms closer to their hive." Although the increased pollination is not as great as would be achieved by multiplying the number of hives, moving and rotating the hives does improve pollination. Given the costs involved in moving hives, this technique is primarily of interest to producers renting a small number of hives.

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**We invite you to contact us for any question or comment on this column or the activities of the CDAQ**

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To refer to the list of financially supported projects, please visit the Council's website at: [www.cdaq.qc.ca](http://www.cdaq.qc.ca)  
 Since its inception in 1996, the CDAQ administers the producers' share of provincial funds allocated by Agriculture and Agri-Food Canada (AAFC) under the Canadian Adaptation and Rural Development Fund (CARD).