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## Next-Generation Integrated Pest Management Tools for Beekeeping

<b>Status</b>	Approved
<b>Competition</b>	2010 Large-Scale Applied Research Project Competition
<b>Sector</b>	Environment/Agriculture
<b>Genome Centre</b>	Genome British Columbia
<b>Project Leaders</b>	Leonard Foster, University of British Columbia, and Stephen Pernal, Agriculture Canada

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### Project Description

**Saving endangered bee populations.** Bees play a major role in agriculture as pollinators of crops. This contribution is estimated to be over \$2 billion in Canada and \$15 billion in the United States. Over the past few years, North American beekeepers have lost colonies at an alarming rate - about three times the historic average. These colony losses are largely attributable to bee-specific infectious diseases. While some can be controlled through the use of pesticides, many of the bacteria, viruses, fungi and mites are developing resistance to these chemicals. In addition, the public is less accepting of chemical residues on what they eat. With funding from Genome Canada, researchers are developing new tools to identify disease resistant bees as well as new treatments tailored to bee pathogens. This marks the first, industry-wide step to reverse the decline in honey bees. Successful implementation will potentially generate benefits of over \$200 million annually by increasing the bees available for pollination and boosting honey production. Consumers will also benefit from improved food security. Economists are working with biologists and beekeepers to estimate the economic viability of the new tools as well as developing best practices to integrate them with traditional methods.