



Executive Summary

Standing Senate Committee on Agriculture and Forestry

The Standing Senate Committee on Agriculture and Forestry undertook a study on the current status of bee health and strategies for its improvement. During its study, the Committee went on fact-finding missions in Ontario and Washington, D.C. These fact-finding missions allowed the Committee to visit a beekeeper and a corn farmer in Ontario, and to meet with government officials and various stakeholders in Washington, D.C. Through its hearings in Ottawa, the Committee heard from 85 witnesses over 8 months. Witnesses included officials from the federal and provincial governments of Canada, the European Union, and Australia, as well as representatives from agriculture and agri-food associations, civil society, and academia. The purpose was to hear witnesses' perspectives on the challenges facing bee health and how governments can help stakeholders address these challenges.

The report consists of two parts. The first part provides information on the structure of the Canadian beekeeping sector, current state of honey bees, the importance of pollinators, and consequences of bee mortality. Although the European honey bee (*apis mellifera*) is the main commercially-managed pollinator in Canada, leafcutter bees and bumblebees are also used commercially to pollinate certain crops. Canada is also home to over 800 species of native (i.e. wild) pollinators, but these species are difficult to rear in large enough numbers to cost-effectively pollinate crops.

While overall colony numbers have been increasing, the annual percentage of bee colony losses has been consistently above the norm of 10% to 15% since 2006/2007. Witnesses identified a number of stressors that may explain these losses, namely weather and climate change, transportation of bees, diseases and parasites, disease and parasite treatments, a lack of floral diversity, and neonicotinoid pesticides. These factors likely interact and combine to cause the high levels of bee mortality.

Pollinators play an important role in the environment, food and seed production, and honey production in Canada. They provide an important ecosystem service in the reproduction of plants. About one third of the human diet comes directly or indirectly from insect-pollinated plants. The commercial value of bees to crop pollination in Canada is estimated at over \$2 billion annually.

Given the importance of pollinators to food production, the second part of the report addresses strategies to ensure pollinator health. The federal government, in collaboration with stakeholders and the provinces, is working on a number of measures to improve pollinator health such as the Bee Health Forum, the National Bee Farm-Level Biosecurity Standard, and the re-evaluation of three neonicotinoid pesticides.

However, additional efforts need to be pursued as challenges were also identified. While it is important to ensure the health status of bees in Canada, some witnesses stated that they would like to import honey bee packages from the United States to meet their needs. Beekeepers would also like quicker access to disease and parasite treatments that are already available in other jurisdictions. Although the PMRA has made significant progress in reducing the duration of new conditional registrations, the length of some conditional pesticide registrations was questioned. Witnesses also identified the need to increase the amount and duration of research funding to improve knowledge about pollinators. Research results need to be transferred into the field and shared with beekeepers and growers in order for them to implement innovative management practices that will improve bee health. Finally, witnesses highlighted the importance of improving the floral diversity of the Canadian landscape to enhance bee nutrition.