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Beekeeping in Québec, Canada: Challenges, Innovations, and Contributions to Sustainable Agriculture in Northern Climates

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Beekeeping in Québec, Canada, is vital to agricultural productivity and environmental sustainability. By 2023, the province had 533 registered beekeepers managing approximately 66,700 colonies, contributing to Canada's national honey yield of 91.8 million pounds, valued at \$277 million. The province's diverse apicultural sector provides essential pollination services for key crops like apples, blueberries, cranberries, and canola, while producing high-quality honey and hive products. In 2021, Québec reported 79,091 acres of blueberry fields and 11,477 acres of cranberry bogs, emphasizing the importance of effective honey bee pollination. Despite its significance, the industry faces major challenges, including harsh winters, habitat loss, and increasing pressure from pests and diseases, particularly the Varroa destructor mite. In 2023, Canadian beekeepers imported 343,125 queen bees—mainly from California and Hawaii (75.9%)—to mitigate colony losses and sustain pollination services crucial to both Canada and Québec's agriculture. In response to these challenges, Québec has become a leader in apicultural research and innovation. Institutions like the Centre de recherche en sciences animales de Deschambault (CRSAD) and Université Laval collaborate on developing sustainable beekeeping practices for Canada and Québec. Studies focus on bee genetics, organic nutrition, queen banking, and pest management to control Varroa populations. By fostering knowledge exchange and embracing evidence-based practices, Québec's apicultural community continues to support honey bee health and the resilience of agricultural ecosystems. This poster highlights the province's diverse apicultural sector and the collaborative efforts driving innovation and sustainability.