



To: Canadian Food Inspection Agency | Agence canadienne d'inspection des aliments

From: The British Columbia Honey Producers Association

Re: Invitation to comment on Risk Mitigation Options for the Importation of Honey Bee Packages From The United States

January 29, 2025

Dear CFIA reviewers,

The BC Honey Producers Association has some observations on risk mitigation options it would like to share with you. We have read the CFIA's Risk Management Options and expectations of risk management proposals. We believe that we are best able to bring to your attention regionally-specific issues and potential mitigation measures. Although your mandate is Canada-wide, we believe proper risk mitigation, should the border be reopened to packages, may also require regional considerations.

We have divided this letter into several elements, including who we are, the context of beekeeping in British Columbia relative to other provinces, our specific observations about package bees and beekeepers in B.C., and finally observations and recommendations of risk mitigation that may help you in your decision-making.

### **Who We Are:**

The BCHPA is the representative non-government organization for the province's more than 4,900 beekeepers, representing 32% of Canada's beekeepers. They maintain nearly 85,000 colonies, or 10% of the national inventory, according to Statistics Canada. The vast majority of these beekeepers are, unlike our neighbour provinces immediately to the east, small-scale in nature. Perhaps 5-7% of beekeepers in BC keep more than 50 colonies.

And yet, beekeepers here produce nearly 6.2 million pounds of honey annually, contributing 6.8% of national production. We outperform provinces such as Quebec, New Brunswick, Nova Scotia, and Prince Edward Island. The honey produced in BC tends to have higher market value compared to other provinces, as it is consumed mostly by local buyers. Honey sales generated \$28,515,000 CAD, equating to 10.3% of the national market value.

Beekeepers in BC provide pollination to a variety of soft fruits and tree fruits, contributing an estimated \$17,082,194 in 2023 and \$13,734,687 in 2024.

Moreover, despite the appearances of being small-scale, our commercial beekeepers are financially viable, whether they have a few hives or 500 or more. They are able to do this by diversifying the number of products collected from each hive and marketing

these at retail prices - thus generating more income per hive. That diversity of products includes honey, nuc production, queen bees, multiplier sets of pollination, pollen for public consumption and beeswax.

### **Post-1987 border closure changes in BC beekeeping**

Since the closure of the Canada-US border to US packages, British Columbia has emerged as an important source of locally-produced queen bees and nucleus colonies, with many being exported to neighbouring provinces.

British Columbia, by virtue of its more temperate climate, has a significant jump on spring build-up, allowing our colonies to be among the first to be ready for splitting, nuc-making and general health outcomes.

A number of beekeeping operations have invested heavily in developing genetic lines that are better capable of operating in Canadian climactic conditions. There has also been significant work on developing lines that express varroa-resistant traits, either through grooming behaviour or Varroa Sensitive Hygiene.

In the executive summary of your Import Risk Analysis you calculate that the six year average of new hives created from imported packages represents just 12.6% of all new hives created. In other words, Canadian beekeepers on balance made 87.4% of all new colonies from local or domestic Canadian stock.

While this RA commenting request is focussed on potential risk mitigation options to take the risk of diseases from US packages to “negligible”, we believe your own research has shown that Canadian beekeepers are well able to build increase in their stocks without expanding access to imported stock, and will be able to wean themselves entirely off of imported packages, thereby improving the health and resilience of Canada’s honeybees from all countries currently exporting to Canada.

This alone would significantly reduce the potential risks of diseases and pests imported into Canada. (We note the US prohibits the importation of honey bees from all countries other than Canada and New Zealand but also currently does not issue such permits.)

### **Our View On Identified Risks**

We appreciate the CFIA’s considerable efforts to conduct this important risk assessment. We are also heartened by the thorough analysis of each of the risk categories. We concur with CFIA’s view that in order to reopen the border to package bees from the US, the identified risks in each category must be brought to “negligible”. We believe this should be the gold standard that CFIA applies to any bee livestock being imported into Canada, regardless of originating nation.

That said, we want to comment on a number of factors germane to B.C. beekeepers.

### **Regulatory and Surveillance Constraints**

One of the primary challenges in implementing risk mitigation strategies for the importation of package bees from the U.S. involves the regulatory framework and the adequacy of surveillance measures in the U.S. Risk mitigation proposals must ensure that the likelihood of entry, exposure, and establishment of hazards on recipient hives in

Canada is negligible given the importation of any volume of commercially-produced packages per year. Surveillance must be done frequently enough to detect changes in subspecies or pest populations due to changing conditions, including climate.

However, establishing a clearly defined zoning system, supported by the U.S. Veterinary Authority (USDA – APHIS), requires comprehensive and well-documented surveillance and control programs that can effectively differentiate the health status of various bee sub-species within the exporting country. We believe this would likely be too costly. Several U.S. beekeeping export groups have already indicated they believe their protocols are adequate and do not see the necessity of investing in protocols that would take the risk to “negligible”.

### **Variability in Regional Effects Within Canada**

Another significant limitation lies in the variability of mitigation protocols across different regions of Canada. While certain protocols may be effective in specific areas, they may not yield the same results in others due to diverse environmental conditions and management practices. This regional disparity poses challenges in creating a standardized mitigation approach that is effective and practical for all producers.

As an example, B.C. has many variable geographic regions which require varied beekeeping practices. Our fellow beekeepers in the Prairie provinces do not have this same geographic variability.

As a second example, every spring and fall thousands of colonies move between Alberta and B.C., largely by Alberta operators. Many of those avail themselves of packages imported from New Zealand or Australia, and would likely switch to U.S. packages if available. This would increase the risk of disease and pest transference to B.C. beekeepers if the stringent risk “negligible” management protocol is not observed.

### **Economic Pressures on Producers**

Our association agrees with the CFIA that risk assessments need to be based on scientific principles and analysis. Yet economic duress among individual producers can lead to irregular stock replacement actions, which threaten the overall industry integrity.

Producers facing financial challenges may prioritize immediate survival over adherence to biosecurity measures, potentially exacerbating risks associated with the importation of bees. This situation complicates efforts to maintain consistent biosecurity protocols and highlights the need for supportive economic structures within the industry.

We address one example of this in the section on amitraz-resistant varroa (rVARam).

### **Monitoring and Detection Limitations**

Monitoring visual signs of pest presence does not guarantee that colonies are pest-free, as many diseases, such as American Foulbrood (AFB) or Africanized Honey Bee (AHB) genes may be difficult to detect in their early stages. The difficulty in early detection underscores the importance of establishing robust risk management monitoring programs that can enable early intervention, yet current practices may not sufficiently address these challenges.

Packages would likely arrive in Canada in March and April, which is post-almond pollination in California. During almond pollination hundreds of thousands of hives are in close proximity from all over the U.S.A. for a month before being moved out to yards for package-shaking. Any risk mitigation would have to ensure the real-time tracking of hive locations over time to ensure that package producers were never in close contact with hives that are known to have AFB treatment resistance, amitraz resistance, AHB, small hive beetle or any other bee related risk.

### **Complexity of Risk Factors**

The risks associated with importing package bees are compounded by multiple susceptibility factors, including environmental stressors, pest exposure, and incorrect treatment applications. The combined effects of these factors can significantly diminish colony strength and increase vulnerability to pests. Addressing these interconnected challenges requires a comprehensive understanding of bee health and the implementation of integrated pest management strategies, which may not always be feasible within existing operational frameworks in the U.S.A.

### **Concern About General Bee Health in the US**

While this is not strictly within your guidelines on commenting on mitigation measures, we raise a tangential observation about the general health of the US bee industry.

The annual colony loss rates in the United States, as collated and tabulated by the Apiary Inspectors of America, observed that in 2023-2024 beekeepers in the U.S. lost more than 55% of their colonies, up from 48% the year before.

In Canada, the 10-year loss rate, as collated and calculated by the Canadian Association of Professional Apiculturists from surveys conducted by all provincial apiculture departments, was 28.2 per cent.

At present, the target location for most bee package production that would come to Canada originates in California. More than 2.4 million US hives from around the US are delivered into California for almond pollination in January and February. Many of those hives are then subjected to grower sprays, subjecting them to pathogenic issues that can develop and spread. Many of those colonies are available for shaking for creation of packages. We believe this entire process increases the risk of importing new pathogens, including varroa-vectored viruses, with US packages.

### **Tropilaelaps mite**

This CFIA risk assessment analysis does not consider the Tropilaelaps mite, an Asiatic pest, because there is no presence of the mite in the United States. However, every province has listed this in their disease lists, factoring in the potential for its arrival. In 2023 CFIA withdrew import permits for package bees from Ukraine because Tropilaelaps had become established in the nearby Krasnodar region of Russia.

The Canadian Honey Council, along with its US counterparts, have been identifying potential modes of transfer of tropilaelaps to North American bees. We need to develop risk mitigation protocols. There is concern that this pest, just like its cousin the varroa mite, will make its presence in North America before any strategy can be developed.

As such, we believe any decision to reopen the Canada-US border **must** also include risk mitigation protocols to prevent the future arrival and spread of *tropilaelaps*.

### **On CFIA's Identified risks**

#### **Amitraz-resistant Varroa (rVARam)**

While there are *anecdotes* that in Canada amitraz may be less effective than in the past, up until earlier in January there had been no peer-reviewed, conclusive research about the prevalence of rVARam in Canada. On Jan. 10 a study was published in *Nature*, titled *Arising amitraz and pyrethroids resistance mutations in the ectoparasitic Varroa destructor mite in Canada* (Rassol Bahreini et al) This study was published well after the CFIA risk assessment analysis was done and only weeks before the extended deadline for commenting on the risk assessment, but bears consideration. The study suggests that beekeeper practices of relying on amitraz as a first option (and often as the only one used) rather the recommended practice of using it last in an Integrated Pest Management (IPM) approach, is widespread.

We are concerned that this practice is also used by US package producers and may in fact speed up the spread of rVARam through packages sent to Canada. We accept that there may be amitraz-resistant varroa in Alberta, but we are not clear on how widespread this is across the rest of Canada. We believe more research needs to be done to show prevalence across the country.

In any event, we do not believe this new paper significantly alters the concerns expressed in your risk assessment, and if anything would need to be factored into a *new* assessment.

#### **Africanized Honey Bees (AHB)**

We are concerned about the risk of packages/or hives with packages being imported or moved into areas that are breeding Canadian stock. The risk assessment, based on the assumptions that each package comes from a single hive, fails this group of beekeepers. In reality, the common practise when populating packages is to shake bees from several hives into a screened box which is then used to fill packages.

If a package with AHB including drones was installed in an area where Canadian stock production is being done, the possibility for spread would be significant, and the gains in localized genetics lost.

There are also serious questions over the validity of the current mitochondrial DNA test used in the USA, and the availability of a better genetic test (developed by world-recognized universities in Canada). It seems clear that an exercise in identifying valid mitigation measures should take place as part of lowering the risk in Canada.

We would encourage the CFIA to consider a different genetic measure based on Single nucleotide polymorphism (SNP) or "snips". This test costs more but another aspect of

risk mitigation should be to determine what type and frequency of testing would ensure negligible risk of importation of undesirable AHB genetics.

### **Oxytetracycline-resistant AFB (rAFBotc)**

The issue of rAFBotc in U.S. bee populations – and the consequence of risk to Canadian colonies cannot be overstated. A research paper published by the U.S. Department of Agriculture in 2024 noted that AFB is present in 31 states, and the prevalence rate ranges up to 63 per cent. It also notes that many states – including ones where beekeepers are interested in shipping packages to Canada – have rAFBotc rates of between 27% (California) and 56% (Texas) Even more northerly states have high rates (Washington, 45%; Oregon, 48% and Montana, 50%)

Approximately 30,000 hives move from Alberta to BC each fall and return in the spring after pollinating crops in BC. If the US border is opened to package bee imports, a significant number of these migratory hives could be stocked with imported package bees. The risk of a serious rAFB outbreak when hives created from newly imported US packages are moved back and forth between provinces under these conditions cannot be dismissed.

### **Small Hive Beetle (SHB)**

Scientific research has proven that our climate continues to warm due to the increasing levels of carbon in our atmosphere. Given this, we should not dismiss the risk of our changing climate allowing SHB to become established. SHB is a serious economic pest for beekeepers when it becomes endemic. In BC, all of the SHB finds have been identified as transient incursions from American hives located near the Canada-US border. This is a vast difference from the spread that could take place if packages imported from the US do not have adequate risk mitigation and inspection protocols.

We should remember that BC once considered the Mountain Pine Beetle a minor nuisance. Then our climate warmed slightly allowing it to become a major economic pest. Vast forested areas of the center of B.C. have been wiped out because of the pine beetle, devastating our forest industry.

## **CONCLUSION**

We concur with CFIA's general position that the onus is on the U.S. Department of Agriculture Inspection Services (APHIS) and potential exporters to Canada to demonstrate that there are adequate controls to take the potential risks for all four pests/diseases to "negligible."

The continental United States has been the source of several bee pathogens new to Canada in recent years. These include tracheal mites, varroa mites and small hive beetles. This track record weakens US claims that they are a safe source of clean bees.

Beekeepers in many provinces of Canada have shown they can thrive on a commercial scale without importing package bees or queens. In doing so, they have produced bees adapted to their local environments and eliminated the risks to hive health that are associated with bee imports. Rather than encourage further bee imports we should

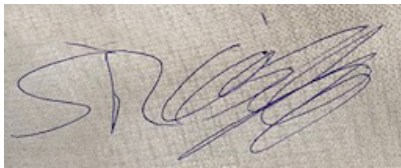
concentrate on reducing colony losses by promoting regenerative and self-sufficient beekeeping practices.

If importers and their regulators cannot meet those controls, then no import permits should be issued – regardless of their country of origin.

We are concerned that if the Canada-US border is reopened without taking the identified risks – and others in future – to “negligible” our beekeeping community will become a petri dish of problems, more so than it already is.

We hope this position paper helps add to the conversation about how to reduce potential risks of importing package bees, specifically from the United States, but in general, all countries wishing access to the Canadian beekeeping landscape.

Sincerely,



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