



POLICY BRIEF

***Tropilaelaps* and a North American perimeter**

Position paper | Preventing introduction through live honey bee imports

Canadian Beekeepers Federation | September 22, 2026

PRIMARY RECOMMENDATION

Temporarily pause live honey bee packages and queens from outside North America while the CFIA completes an updated, transparent risk assessment and verifies source-country surveillance and diagnostic methods.

Prepared for federal decision-makers

Prepared by Dr. Peter Awram, Government and Industry Relations, Board of Directors

Executive summary

***Tropilaelaps* is a parasitic mite of developing honey bees that is not known to be established in North America.** Its confirmed range has moved west, and a 2026 outbreak was found in Turkey. Once a destructive bee mite is established and dispersed, no country has been successful with eradication.

Canada's import controls depend on surveillance that can detect the pest. Canada manages live bee imports through approved sources, permits and official health certification. The adult-bee methods widely used for varroa are poorly suited to *Tropilaelaps* because the mite lives mainly in brood. A country can test in good faith, find nothing and certify "not detected" while its colonies are infested.

The CBF recommends a temporary North American perimeter for live packages and queens, with a rapid reassessment and a national preparedness program. The perimeter is time-limited.

Four decisions requested

1. **Temporary perimeter.** Pause live packages and queens from outside North America for a defined review period.
2. **Evidence standard.** Require each approved source country to disclose the design, coverage and methods of its *Tropilaelaps* surveillance and diagnostic program.
3. **Updated assessment.** Reassess the pathway using current detection, transport and geographical evidence, and publish the basis for each resulting approval.
4. **Preparedness.** Create a federal, provincial and industry table, brood-based sentinel surveillance and a national incursion-response plan.

1. The hazard

***Tropilaelaps mercedesae* feeds and reproduces on honey bee brood.** Infestation damages developing bees, causes deformities and can transmit bee viruses, including deformed wing virus. Western honey bees, *Apis mellifera*, lack the behavioural defences of the mite's original Asian hosts.

WOAH lists *Tropilaelaps* infestation as a honey bee disease and sets standards for declaring a country or zone free of it. The question for Canada is whether the evidence behind a certificate is strong enough to support a claim of freedom from this pest.

2. Why current certification is not enough

2.1 The sampling method is mismatched to the mite

Adult-bee tests found the mite in only about a third of infested colonies. A 2026 peer-reviewed study compared five methods in 26 western honey bee colonies in Chiang Mai, Thailand, all confirmed to be naturally infested. From most to least sensitive:

- **Sticky boards:** the most sensitive method.
- **Brood-cell uncapping:** second.
- **Brood-frame bump test:** third.
- **Alcohol wash and powdered-sugar shake:** the least sensitive. Both sample about 300 adult bees, and each detected the mite in only about a third of the colonies.

Adult-bee tests can miss the mite when about one brood cell in twenty is infested. The study estimated the brood infestation at which each test has a 50% chance of detecting the mite:

- **Brood-frame bump test:** 1.15% (95% confidence interval 0.26 to 2.04%).

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- **Alcohol wash:** 5.20% (0.65 to 9.76%).
 - **Powdered-sugar shake:** 5.67% (1.65 to 9.69%).

The estimates are imprecise and come from a region where the mite is endemic. The intervals are wide because the study had 26 colonies. Detection falls as infestation falls, so at the low levels expected soon after an introduction, adult-bee tests will find less than they did in this study. The method a country uses changes the result, so the CFIA needs to know which method each source uses.

2.2 "Not detected" is not the same as absence

A health certificate records the result of a surveillance and testing system. If the system samples the wrong part of the colony, too few colonies, the wrong season or the wrong places, a negative result does not show that the mite is absent. That is a limit of the evidence. The CBF does not suggest that any exporting authority has acted in bad faith.

The international standard does not require a program designed to find this mite. Under Article 9.5.4 of the WOAHP Terrestrial Code, a country may be considered historically free of *Tropilaelaps* after a risk assessment "but without formally applying a specific surveillance programme". A certificate of freedom can therefore rest on general animal-health surveillance that was never designed to find *Tropilaelaps*.

For each approved source, the CFIA needs to know:

- **Coverage:** the area and population surveyed.
- **Design:** the sampling design and frequency.
- **Material:** the colony material examined.
- **Method:** the diagnostic method and its sensitivity.
- **Confirmation:** the laboratory confirmation procedures.
- **Reporting:** the rules for official notification and suspension.

2.3 Detection commonly lags introduction

Detection lags introduction by a year or more. The EU Reference Laboratory for Bee Health reports that most of the evidence on the mite's spread comes from research projects, not official surveillance, and that countries have notified WOAHP of almost none of the introductions. It finds that detection generally comes at least a year after the presumed introduction. A clean certificate issued in that year gives false reassurance.

3. Broodless movement is not a complete barrier

Mites can travel on adult bees without brood. A 2026 U.S. paper documented a broodless *Apis dorsata* swarm, intercepted on a cargo vessel bound for Port Elizabeth, New Jersey, carrying 28 *T. mercedesae*. The mites were carried on adult bees over a long sea voyage.

Mites also survive on dead adult bees. A study published in December 2025 found that mites survived for about a week on dead adult bees, far longer than on live adults, and named queen cages and package bees as possible transport routes. It is a small laboratory experiment at a single site and cannot carry the argument alone. It does remove confidence that a consignment without brood is safe.

4. The geographical risk has changed

ANSES has confirmed *T. mercedesae* in western Russia and Georgia, where it was established before anyone detected it. A December 2025 update added reports from Abkhazia and Dagestan, and a

suspected case in a second Georgian region. Surveillance and reporting are uneven, so the official picture is incomplete.

The CFIA has already acted on this reasoning. On June 5, 2024, it suspended all imports of honey bee queens and packages from Ukraine for 2024 because it "could not conclude that *Tropilaelaps* mites are completely absent from Ukraine" and current import conditions "would not provide sufficient controls". The perimeter asks the CFIA to apply the same standard to every offshore source.

Great Britain has acted twice before the mite reached its own colonies. It suspended imports from Ukraine in October 2025 because limited surveillance and detection challenges gave no reliable assurance. It suspended imports from Turkey after an outbreak reported on August 31, 2026, with restrictions in force from September 4, 2026. The Turkey outbreak is a material westward development.

5. Canadian exposure and proportionality

Package bees reached Canada in 2025 from four countries, according to AAFC's trade tables:

- New Zealand
- Australia
- Italy
- Chile

Canada imports about 46,000 kg of package bees a year, the 2023 to 2025 average. A package weighs 1 kg or 1.5 kg and nobody records the mix, so that is about 35,000 packages a year.

Most imported queens already come from the United States. Canada imported an average of more than 300,000 queens a year from 2023 to 2025, over 80% of them American. A temporary offshore pause leaves the main queen supply open while the CFIA reassesses the smaller offshore pathway.

The pause needs transition measures. These figures describe the pathway. They do not measure the effect on each importer or beekeeper. The CFIA needs to provide for consignments already in transit or under binding contract, and to publish the review criteria and timetable when it announces the pause.

6. Policy design: the North American perimeter

6.1 Scope

The perimeter covers live honey bee packages and queens from outside Canada, the United States and Mexico. It does not by itself authorize any movement within North America.

6.2 Duration and exit criteria

The pause is time-limited and ends source by source. The CFIA resumes approval for a source when it can document an acceptable pathway on:

- **Geography:** current distribution in and around the source.
- **Surveillance:** representative of the source's colonies.
- **Diagnostics:** methods suited to *Tropilaelaps*.
- **Reporting:** official notification to Canada.
- **Suspension:** enforceable triggers.

A pause goes further than the WOA standard, and trade rules allow that on a provisional basis. Article 9.5.5 of the Code permits queens with attendant workers to be imported from infested countries under treatment, isolation or inspection conditions. Article 5.7 of the WTO Agreement on the Application of

Sanitary and Phytosanitary Measures lets a member adopt a provisional measure on the information available, including measures other members apply, where the relevant scientific evidence is insufficient. The member must seek the information needed for a fuller risk assessment and review the measure within a reasonable period. The pause proposed here follows that model.

6.3 Evidence requested from source countries

- **Distribution:** current national and subnational distribution, including suspected events and risk from neighbouring countries.
- **Surveillance:** purpose, geographic coverage, frequency, season, colony selection and sample size.
- **Samples:** whether brood, hive debris, adult bees or molecular samples are examined, and by which protocols.
- **Performance:** estimated detection performance and the process for laboratory confirmation.
- **Controls:** movement controls, traceability, and the authority's obligation to report, notify Canada and suspend certification.

7. Preparedness inside Canada

Import controls reduce risk but cannot remove it. Canada needs a system that finds an incursion early enough to act.

7.1 Sentinel surveillance

- **Methods:** use brood-based and hive-debris methods suited to *Tropilaelaps*, not adult-bee varroa monitoring.
- **Locations:** prioritize ports and airports receiving live bees, importer holding yards, major distribution points and the dense beekeeping regions connected to them.
- **Targets:** set sample numbers and frequency against an explicit detection objective, and publish coverage and results.

7.2 Incident response

- **Command:** name the federal decision lead and define how provincial apiarists, laboratories, importers and beekeeper organizations join the command structure.
- **Procedures:** pre-authorize diagnostic confirmation, trace-back, trace-forward, standstill and movement controls.
- **Limits:** define the point at which eradication gives way to containment, and the compensation or support available to secure compliance.

7.3 Ongoing governance

- **Table:** bring honey bee biosecurity into an existing national animal-health table, or set up a dedicated table with a published workplan.
- **Review:** review approved live-bee sources on a fixed cycle, and at once after a new detection, a surveillance failure or a material scientific development.

8. Our recommendations

PROPOSED DIRECTION

The Minister directs the CFIA to place a temporary pause on permits and entry for live honey bee packages and queens originating outside North America; complete and publish an updated *Tropilaelaps* pathway assessment; obtain and assess surveillance and diagnostic evidence from every approved source; and return within 90 days with source-specific decisions and a national preparedness plan.

Operational guidance needs to cover:

- **Transit:** consignments already in transit.
- **Contracts:** existing contractual commitments.
- **Exemptions:** emergency exemptions.
- **Reconsideration:** the evidence a source needs to be reconsidered.
- **Review:** the date of the next public review.

9. Conclusion

Canada does not need proof that a source is infested to ask whether its evidence of freedom is adequate. The question is whether present controls can prevent introduction while the mite's range expands and routine tests are known to be weak.

A temporary, transparent and reviewable perimeter is proportionate. It gives time to test the assurance case, improve detection and prepare for an incursion, without deciding unrelated import questions.

DECISION IN ONE SENTENCE

Pause the offshore live-bee pathway, test the evidence behind each approval, and put the detection and response system in place before the mite arrives.

Contact: Connie Phillips, Executive Director, Canadian Beekeepers Federation, cdnbeefedoffice@gmail.com. Find more information at canadianbeekeepers.ca.

Appendix A: evidence at a glance

Issue	What the evidence shows	Policy meaning
Test sensitivity	26 naturally infested colonies; adult-bee tests detected the mite in about a third; estimated 50% detection at 5.20% and 5.67% brood infestation.	Require method-specific evidence and use brood-based or debris-based surveillance.
Range expansion	Confirmed westward spread; later Caucasus reports; outbreak reported in Turkey in August 2026.	Trigger an immediate geographic and source-country review.
Late detection	ANSES notes sparse official reporting and detection often at least one year after presumed introduction.	Do not equate official non-reporting with absence.
Broodless carriage	28 mites on a broodless swarm intercepted on a U.S.-bound vessel; laboratory evidence of survival on dead adult bees.	Reassess broodless live-bee pathways; treat the small-study evidence with stated limits.
Trade scale	2023 to 2025 average: about 46,000 kg, or about 35,000 packages, a year; over 300,000 queens a year, more than 80% American.	A temporary offshore pause is targeted; plan transition measures.

Appendix B: sources and qualifications

1. Tokach et al., "Sensitivity of current *Tropilaelaps mercedesae* monitoring methods in *Apis mellifera* colonies," *Scientific Reports* 16 (2026). 26 colonies in Thailand; thresholds are estimates for 50% detection probability.
2. Ramirez et al., "Interception of an *Apis dorsata* swarm with *Tropilaelaps mercedesae* and *Kuzinia morsei* mites on a cargo vessel inbound to the United States," *Frontiers in Insect Science* (2026). Interception evidence from a wild swarm; no commercial package bees were involved.
3. Gill et al., "In vitro assessment of *Tropilaelaps mercedesae* survival across different substrates," *APIS* 2(2): 22-27 (2025). One site, 30 mites in each of three replicates, 90 per treatment. First posted as a bioRxiv preprint, December 2024.
4. ANSES/EU Reference Laboratory for Bee Health, worldwide distribution note (March 2025). Combines official, scientific and informal evidence and states those limits.
5. ANSES/EU Reference Laboratory for Bee Health, Caucasus update (December 2025).
6. UK government page on safeguard measures for Ukraine and Turkey. Current government record of precautionary action.
7. WOAHP Terrestrial Animal Health Code, Chapter 9.5, infestation of honey bees with *Tropilaelaps* spp.. Article 9.5.4 (country or zone freedom) and Article 9.5.5 (imports of live bees).
8. AAFC, Statistical Overview of the Canadian Honey and Bee Industry, 2025. The tables report package imports in kilograms; the package count is a CBF derivation from industry package weights. The 2025 queen data remain under Statistics Canada review.
9. CFIA decision on U.S. package-bee risk management. The prohibition on U.S. package bees.
10. Dainat et al., "The ectoparasitic mite *Tropilaelaps mercedesae* (Acari, Laelapidae) as a vector of honeybee viruses," *Insectes Sociaux* 56: 40-43 (2009). Deformed wing virus at up to 10⁸ copies per mite, with results suggesting the virus replicates in the mite.
11. CFIA letter to stakeholders on honey bee imports from Ukraine, June 5, 2024 (file 21275496). Suspension of queen and package imports for 2024.
12. WTO Agreement on the Application of Sanitary and Phytosanitary Measures, Article 5.7. Provisional measures where scientific evidence is insufficient.