

## **Eastern equine encephalitis (EEE) Emergency Response with Aerial Spray FAQ for Beekeepers**

The Vermont Department of Health develops and maintains an “[Arbovirus Surveillance and Response Plan](#).” It includes guidance for the State’s response to EEE virus detections in Vermont.

The plan is based on the most up-to-date scientific information available and incorporates guidelines from the CDC and the recommendations of the Vermont Agency of Agriculture, Food and Markets (VAAFAM) and the Vermont Department of Health (VDH).

Once it’s determined that risk level is high, additional measures need to be taken to protect people’s health and spraying of pesticides is considered.

See Frequently Asked Questions below, if emergency response with aerial spray is scheduled.

### ***1. When and where will aerial sprays occur?***

Aerial sprays are applied at night to best target active mosquitoes and minimize risk to non-target species, like honey bees.

To determine statewide spray activity, visit this [website](#). Spray areas and dates may change due to weather conditions or other factors that affect aircraft flight.

Beekeepers with apiaries registered with VAAFAM within the spray zone will be notified within 48 hours prior to treatment.

### ***2. Should I take precautions to protect honey bee hives during aerial sprays?***

The Agency does not anticipate negative impacts on honey bee colonies based on the method of application and minute amounts of material being applied. Monitoring efforts in Massachusetts in 2019 showed no adverse effects on honey bee colonies from

application of the same material. See the [2019 Honey Bee Monitoring for Aerial Mosquito Adulticide Application report](#) for more details.

Aerial sprays will take place after dark, minimizing direct exposure to foraging honey bees and at very low rates (0.008 lbs of active ingredient per acre). If you are concerned about the potential for negative impacts from aerial spraying, consider these recommendations:

- **Move hives.** Consider physically relocating hives to a different apiary location outside the spray area and then back to the original apiary location after the spray is completed. Check out [The Basics of Moving Hives](#) from The Bee Informed Partnership for more information. Note this precaution may not be practical or possible for all hive types.
- **Cover hives.** Consider placing a cloth (burlap, canvas, muslin, cotton sheet, etc.) covering over the entire hive for the duration of an aerial spray to prevent bees from exiting, thus preventing direct contact with the sprayed mosquito adulticides. To apply a hive covering, simply drape a loose, wet cloth over the entire hive at dusk or close to dark prior to aerial spraying. Then swiftly remove the covering the morning after the aerial spraying to allow the hive to forage normally. Note that hive coverings can negatively impact honey bees by causing overheating due to poor ventilation if not applied properly or removed quickly following aerial spraying.
- **Add boxes aka bee space.** Consider adding additional hive boxes or supers prior to aerial spraying, to increase the amount of space for bees to congregate inside the box and increase ventilation within the hive. This is an ideal option for apiaries with bees that are expected to or currently congregating or clustering (i.e. bearding) on the exterior of hive boxes. To increase ventilation, remove any entrance reducers, place a 1-2 hive boxes or supers (creating extra bee space) on the top of the current hive setup prior to aerial spraying. Then remove the additional boxes within 48 hours following the spray.




*Left: A sheet covering a hive. Right: A hive with entrance reducers removed and empty boxes added.*

***3. Should I take precautions if miticides are in my honey bee hives during aerial sprays?***

If honey bees are congregating on the outside of hive boxes due to the installation of active miticides (like Formic Pro or Api Life var) in hives, consider the suggestions for *Adding boxes* in Question 2 above.

***4. Should I be concerned about foraging honey bees coming into contact with residues on flowers or water sources after the aerial sprays?***

An aerial application is made at night, after dark. The product being applied has a short half-life and breaks down rapidly in sunlight. This mixture becomes “bee safe” in less than three hours. For more explanation and to see other product values, EPA’s Residual Time to 25% Bee Mortality webpage is available at <https://www.epa.gov/pollinator-protection/residual-time-25-bee-mortality-rt25-data>.



[Monitoring of honey bee hives during similar past aerial applications in Massachusetts](#) identified no negative effects on honey bee populations.

***5. How do I report honey bee mortality after the aerial spraying?***

To report signs of acute honey bee mortality (defined as larger than normal quantities of dead or dying bees at the entrance or inside hives) after an aerial spray, contact the Apiary Program as soon as possible by phone (802)-272-6688 or email [AGR.bees@vermont.gov](mailto:AGR.bees@vermont.gov). An Apiary Inspector will follow up on your report.

***6. Where can I learn more about aerial spraying and honey bee health?***

Visit **this VDH website** for additional, up to date information on aerial spraying. If you have specific questions related to honey bee health, contact the Apiary Program by phone (802)-272-6688 or by email [AGR.bees@vermont.gov](mailto:AGR.bees@vermont.gov).