Request for Clarification Regarding EPA’s January Advisory

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We beekeepers strongly support the EPA, not only because our honey bees are highly susceptible to agricultural insecticides, but also to avoid contamination of our honey crop. We understand that the EPA has a mandate to protect Americans from unreasonable risks from pesticides, ***but that FIFRA does not restrict the use of those that pose no unreasonable risks***.

Note: in this letter I am ***highlighting*** key words and phrases that are legally relevant with regard to FIFRA.

We are happy to hear that “EPA is committed to working closely with the beekeeping community,” and we are in turn committed to working with the EPA, especially with regard to our use of registered or unregistered biopesticides for varroa control.

## Background

The EPA encourages the use of biopesticides. In the Agency’s own words:

* Biopesticides are usually inherently less toxic than conventional pesticides.
* Biopesticides generally affect only the target pest and closely related organisms, in contrast to broad spectrum, conventional pesticides that may affect organisms as different as birds, insects and mammals.
* Biopesticides often are effective in very small quantities and often decompose quickly, resulting in lower exposures and largely avoiding the pollution problems caused by conventional pesticides.
* When used as a component of Integrated Pest Management (IPM) programs, biopesticides can greatly reduce the use of conventional pesticides, while crop yields remain high.
* Added notes: Beekeeper adoption of biopesticides would reduce our use of currently-registered “conventional” miticides that unfortunately contaminate our combs and honey, and exhibit greater risk to man and the environment. Another beauty of these “natural” chemicals is that not only do they quickly biodegrade, but they also have low “selectivity ratios” – and thus the amounts applied are self-limiting, since beekeepers can’t ramp up the dosage (as they are tempted to do when mites develop resistance to a synthetic miticide), since their bees won’t tolerate it.

Our main pest – the varroa mite – has demonstrated its ability to rapidly develop resistance to the registered synthetic miticides. We of course want to be in compliance with FIFRA regarding our shift towards using biopesticides. Unfortunately, the handful of currently-registered biopesticides are unduly expensive, and may have inadequate or excessively-restrictive labeling that hampers their efficacy.

Since the EPA has determined that application of the biopesticides oxalic acid, formic acid, thymol, and food grade plant essential oils to beehives poses no unreasonable risk to the environment (for example, one may consume a full gram of oxalic acid in a serving of spinach), many beekeepers have been using unregistered off-the-shelf forms of the active ingredients of those biopestides for their own use. To avoid their beekeepers being in noncompliance, some states petitioned the EPA for 22(ee) exemptions for the use of oxalic acid in beehives.

In addition, a group of us approached the EPA last year to see whether it would follow New Zealand’s lead and grant us a simple “own use” exemption, to wit: “In a beekeeping context, the ‘own use’ exemption is commonly used when a beekeeper prepares and applies preparations containing generic substances, such as oxalic acid or formic acid, to their own hives for control of Varroa mites.” To our disappointment, the Agency declined to do so.

Since in registering products containing oxalic acid, formic acid, and thymol, the Agency has concluded that they posed no unreasonable risk to the environment, and since the Agency has granted these ingredients exemptions from tolerance in honey, we were unclear as to whether the Agency had decided that ***use*** by beekeepers of generic (not sold for pesticide purposes) high-purity off-the-shelf versions of these natural chemicals for varroa control in their own hives was indeed exempt from regulation, according to 7 U.S.C. § 136a(a) of FIFRA, which states that **“**To the extent necessary to prevent unreasonable adverse effects on the environment, the Administrator ***may*** by regulation limit the distribution, sale, or use in any State of any pesticide that is not registered.”

So in July 2023, I sent a letter to the OPP asking for clarification regarding a straightforward question: “Whether the OPP has formally determined that it is necessary for the EPA to limit the use by beekeepers of unregistered, generic, off-the-shelf oxalic acid, formic acid, thymol, or food-grade plant oils for varroacidal purposes in their own hives, in order to *prevent unreasonable adverse effects on the environment.”*  The Agency subsequently verbally confirmed that the EPA had not determined that there was reason to restrict their use.

In subsequent online meetings we were told that the Agency wished to “work with us” on providing guidance for beekeepers *and to our State Regulatory Agencies* regarding the ***use*** (as opposed to the distribution or sale) of unregistered organic acids, thymol, or food-grade essential oils for pesticidal purposes against the varroa mite.

We were disappointed that the Agency subsequently released its Advisory ***without any further discussion or consultation with us whatsoever***, since it answered our question indirectly and only in passing as to whether beekeepers could indeed ***use***these unregistered chemicals — in a roundabout way in the single sentence “EPA considers any application of an unregistered pesticide ***for other than personal use*** (e.g., application of an unregistered pesticide to another person's property) to be distribution of an unregistered pesticide and a violation of FIFRA” (emphasis mine). We were under the impression that the Agency, as per its mandate [[[1]](#endnote-1)], was going to further confer with us to ***inform and educate*** us users to a greater extent about ***accepted uses***.

As acknowledged in the Advisory, FIFRA does not differentiate between “own use” and “personal use.” This is a key point for which we are asking for more clarification, especially since the Advisory later uses the undefined term “personal” in the statement: “Personal use would not likely include activities that involve any operation in commerce such as selling or distribution of bees/colonies, pollination services, or honey.”

The above argument appears to be created out of whole cloth. FIFRA does not differentiate between “hobbyists” and migratory beekeepers as ***end users***, so we beekeepers are unclear about why the Advisory does so.

As an example, similar to oxalic acid, the EPA does not consider common hand soap to present unreasonable risk to man or the environment, and lists it as a minimum risk inert exempt from tolerance, but ***does not list soap as a minimum risk active ingredient***. Therefore, a rancher who uses hand soap with the intent to kill ticks on her goats would be “personally” using an unregistered pesticide. According to the Advisory, if she then sold her goats, or rented them out for brush control, or sold cheese made from their milk, ***she would be committing an “operation in commerce” of distributing pesticides and subject to enforcement action under FIFRA***. It stretches credulity that the EPA would recommend such enforcement action.

Akin to the above example, would a beekeeper (whether “hobby” or “commercial”) who as an “end user” applied unregistered oxalic acid to their hive and then sold or rented that hive in another state for pollination purposes, be guilty of distribution of those pesticides? You can thus understand our confusion.

Not only that, but the EPA clearly differentiates between “pesticides” and “treated articles” — the EPA does not restrict the movement, rental, or sale of a beehive treated with registered products, and thus has no justification to restrict such “distribution” of beehives treated with unregistered oxalic, formic, thymol, or food-grade plant oils. An even stronger example is the EPA’s decision to consider seeds treated with huge amounts of neonicotinoids (and the crops produced from them) as “treated articles” exempt from regulation of sale, distribution, or use.

We also understand the Agency’s clear position about the use of unregistered chemicals with known risk and tolerance limits, or any ***formulated products*** containing additional ingredients. However, my original letter referred solely to EPA’s position on ***end use*** by beekeepers of ***generic oxalic acid, formic acid, thymol, and food-grade plant essential oils***, all of which are exempt from tolerance, most considered to be GRAS, and have been determined by the Agency to not pose unreasonable risk to the environment when applied to bee hives at the dosages required to control parasitic mites.

We beekeepers thank the Agency for being reasonable as to our use of the above “natural” miticides. Because this is a legal issue, and since we beekeepers wish to be in compliance with the law (and not face enforcement action), we are now asking for additional clarification regarding our ***preparation and end use*** of the above generic ***biochemical*** ***active ingredients***. Clear answers will be of great benefit to beekeepers, the Agricultural Research Service, our State extension services, and especially our State Lead Agencies charged with enforcement.

As an example of how ridiculous the current situation is, as I type these words, the vast majority of our country’s beehives are currently pollinating almonds in my own home state of California, where due to of lack of being registered, it is still against the law for any of those two million hives to be treated with any form of oxalic acid, even as a dribble!

## Our Questions

**Notes:**

1. Our questions below relate solely to application by beekeepers of unregistered, generic, ***purified*** oxalic acid, formic acid, thymol, or food-grade plant essential oils (hereafter referred to as “the above biopesticides”).
2. Our questions relate solely to a beekeeper acting as an ***end user***, not as a producer or distributor — specifically regarding interstate transport.
3. As end users, we would merely be diluting the above biopesticides for application solely to our own hives.
4. Since our questions are about ***legal compliance*** with FIFRA, and since we may present the answers from EPA to our State Lead Agencies, we are asking for clear yes/no answers.
5. It is our understanding that beekeepers who simply dilute and apply the above biopesticides ***for their own use*** in their own hives would be considered as “end users,” as opposed to being producers or distributors.

**Is our above understanding correct? Yes 🗌 No 🗌**

1. It is our understanding that the EPA, as Administrator of FIFRA, has determined that since the above purified biopesticides, when applied by ***end users to their own bee hives*** to control the varroa mite, would not constitute an unreasonable risk to man or the environment, that therefore ***end use of these generic active ingredients*** is exempt from regulation under FIFRA, ***so long as they are applied in a manner that would not create any additional risk to the environment, nor introduce adulterated honey into interstate commerce***.

**Is our above understanding correct? Yes 🗌 No 🗌**

1. It is our understanding that honey for sale must comply with the Federal Food, Drug, and Cosmetic Act, which prohibits the “introduction or delivery for introduction into interstate commerce” of adulterated food. Our understanding is that the EPA has established exemptions from tolerance for the above biopesticides in honey and honeycomb, so at the dosages necessary for mite control, the inconsequential residues from these purified active ingredients in honey for sale would not be considered as “adulteration.”

**Is our above understanding correct? Yes 🗌 No 🗌**

1. However, the EPA is justifiably concerned about beekeepers inadvertently “adulterating” their honey by using impure active ingredients or unapproved excipients, adjuvants, or delivery matrices (termed in FIFRA as “inerts”).

It is our understanding that to avoid adulterating honey intended for sale, beekeepers who usethe above biopesticides***, must use only those of high purity, and dilute them solely with minimum risk inerts*** (*described as a commonly consumed food commodity, animal feed item, or edible fat and oil as specified in 40 CFR 180.950, or listed as Inert Ingredients Eligible for FIFRA 25(b) Pesticide Products*.) Such allowed inerts would include water, isopropyl alcohol, glycerin, vegetable oils, mineral oil, cellulose, cardboard, paper, or commonly consumed food commodities (all approved for use on food crops) while colonies were producing honey for sale. When not producing honey for sale, cotton or sawdust could also be used. In addition, although not of concern as a health risk, thymol may affect the odor of honey, and should not be applied while honey for harvest is on the hive.

**Is our above understanding correct? Yes 🗌 No 🗌**

1. Although sodium polyacrylate or polysorbate 20 are not on the Minimum Risk Inerts list, these would be useful inerts for delivery of the above biopesticides. Sodium polyacrylate is used in both Apiguard and baby diapers, and polysorbate 20 is commonly used in food and skin products.

**Are we restricted from using these two inerts in mixing our own treatments for our own hives? Yes 🗌 No 🗌**

The most confusing parts of the Advisory deal with its use of the novel term “own personal use,” which “does not appear in FIFRA, nor has EPA developed any special exceptions to FIFRA regulation for what might be considered “own personal use,” as well as the term “likely” in the sentence “Personal use would not likely include activities that involve any operation in commerce such as selling or distribution of bees/colonies, pollination services, or honey.”

1. We understand that a beekeeper cannot, under the definitions in FIFRA, distribute or sell an unregistered ***pesticide*** to another person for pesticidal purposes. But that definition applies only to the pesticide, ***not to the sale or transport of a crop that has been treated with a pesticide***. As in the aforementioned hypothetical case of the goat rancher, or the case of treated seed, FIFRA would consider beehives treated with a pesticide to be “treated articles,” rather than as pesticides themselves. To our understanding there would therefore be no restrictions on the transportation, rental, or selling of hives that had been previously treated with purified oxalic acid, formic acid, thymol, or food-grade plant essential oils.

**Is our above understanding correct? Yes 🗌 No 🗌**

1. FIFRA is enforced by each state’s Lead Agency, which may be more restrictive than the EPA, so beekeepers must check with their SLA to determine their local restrictions and regulations. It is our understanding that beekeepers may petition their SLA to align with the EPA’s position regarding the use of unregistered oxalic and formic acids, thymol, or food-grade essential oils for mite control in bee hives.

**Is our above understanding correct? Yes 🗌 No 🗌**

We thank you for working cooperatively with us beekeepers and our State Lead Agencies, and hope for an expeditious reply clarifying details for complying with FIFRA and state regulations.

**Note to the reader: Our national organizations declined to submit this letter to the EPA, and since I feel that our industry should speak with a united voice, I’m waiting for a state organization or other government entity to do so.**

1. SEC. 23. [7 U.S.C. 136u] STATE COOPERATION, AID, AND TRAINING.

   (c) INFORMATION AND EDUCATION. —The Administrator shall, in cooperation with the Secretary of Agriculture, use the services of the cooperative State extension services to inform and educate pesticide users about accepted uses and other regulations made under this Act. [↑](#endnote-ref-1)