

**National Organic Standards Board
Livestock Subcommittee
Petitioned Material Discussion Document
Oxalic Acid Dihydrate
August 21, 2018**

Summary of Petition for [Oxalic Acid Dihydrate](#):

A petition for oxalic acid was received in October 2017 for addition to the National List at §205.603 as a treatment of varroa mites in organic beehives. This material has not been petitioned for inclusion on the National List in the past. Oxalic acid is currently labeled and approved by the EPA for use in beehives ([Registration #91266-1](#)). A 2010 National Organic Standards Board proposal for [Organic Apiculture](#) recommended this material be approved with no restrictions for control of varroa mites in honeybee hives. Currently there are two materials on the National List that are used as pesticides in honeybee hives. As topical treatment, external parasiticide or local anesthetic as applicable: §205.603 (b)(2) Formic Acid and (b)(8) Sucrose Octanoate Esters (in accordance with approved labeling). A petition was received in December 2016 for thymol, a material that is also used for varroa mite control in honeybee hives, but this petition requested synthetic thymol be considered only for use in organic livestock footbaths. As with all materials on the National List, materials can only be used as annotated. Thymol for use in livestock foot baths is still under review by the National Organic Program. A request for a technical review (TR) was given to the National Organic Program in December 2017. At the date of the writing of this petition discussion document, the oxalic acid TR had not yet been received by the Livestock Subcommittee.

Oxalic acid dihydrate is presented as an alternative treatment to formic acid for varroa mites. This material can be used in rotation with, or instead of formic acid. Like formic acid, oxalic acid is present naturally in honey. Current research indicates that the amount of oxalic acid typically applied to the honeybee hive is not toxic to the bees, but is sufficient to kill varroa mites. The petition correctly states this material is listed for use in organic honeybee hives under the Canadian Organic Standards.

Since it is an acid, it is considered very hazardous in cases of skin contact, eye contact, ingestion or inhalation. Handling instructions include use of protective equipment, such as long sleeves and pants, chemical resistant gloves, goggles and a respirator. This material has also been sold as the active ingredient for bleaching wood.

Oxalic acid can be applied to a hive in two ways: In a sugar syrup to be trickled between frames, and as a vapor treatment. There are numerous types of equipment, both home-made and commercially available, that provide the beekeeper the means of heating the oxalic acid and filling the hive with this vapor. In addition, oxalic acid is used to treat packaged bees before they are shipped to customers. Packaged bees with infestations of varroa mites has been a problem for beekeepers and the use of a sugar/oxalic acid syrup spray is one method to address this issue.

Questions:

1. Is this material needed by organic beekeepers, and why?
2. There are alternatives to this material on the National List for control of varroa mites in honeybee hives. In addition, nonsynthetic materials such as essential oils and management techniques such as brood comb trapping are used for mite control. Why are the other materials/methods insufficient for varroa mite control in organic production?

3. This material is categorized as very hazardous by the EPA. Explain how accessible and practical the necessary protective equipment is for the operator. If you have experience with this material, describe your handling equipment and protocols.

Subcommittee vote

Motion to accept the oxalic acid dihydrate petitioned material discussion document

Motion by: Harriet Behar

Seconded by: Sue Baird

Yes: 5 No: 0 Abstain: 0 Absent: 1 Recuse: 0

Approved by Ashley Swaffar, Subcommittee Chair, to transmit to NOSB, August 24, 2018