

At a Glance: U.S. EPA Advisory on the Applicability of FIFRA and FFDCA for Substances used to Control Varroa Mites in Beehives*

- ❖ EPA is aware beekeepers are using products that are **NOT** registered pesticides to control varroa mites.
- ❖ There are 17 pesticide formulated products (**Table 1**) registered by the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) to control varroa mites (*Varroa destructor*) in beehives.
 - What does it mean for a pesticide to be *registered*?
EPA has determined that use of a pesticide product will not cause unreasonable adverse effects to human health or the environment, and the product can be legally sold and distributed in the U.S.
- ❖ Tolerances or exemptions under the Federal Food, Drug and Cosmetic Act (FFDCA) exist for some products (**Table 2**).
 - What is a *tolerance limit*?
The set amount of pesticide residue allowed to remain in or on a treated food commodity.
 - What is a *tolerance exemption*?
An exemption covers residues of a pesticide on food, but does not set a numerical limit for the amount. It may contain other non-numerical limitations.
- ❖ Can beekeepers use unregistered products to treat beehives for one's "own personal use"?
 - FIFRA does not define "own personal use" and the EPA has not developed any special exceptions to FIFRA regulations for what might be considered "own personal use."
 - Some circumstances, e.g., when applying an unregistered pesticide as a service for others or transferring or selling hives which contain them, may constitute unlawful distribution or sale under FIFRA.
 - Applying unregistered products to a beehive may result in pesticide residues in honey and other hive products (e.g., comb, wax, propolis, royal jelly, pollen) that are not covered by an existing tolerance or exemption under FFDCA, which would make the food adulterated.
 - It is unlawful to introduce adulterated honey or other regulated products into commerce under FFDCA.
- ❖ Personal use would likely not include selling or distributing bees, colonies, honey, or pollination services, as long as those activities do not include the distribution or sale of unregistered pesticides.
- ❖ If you choose to use registered pesticides to control varroa mites, remember...
 - The label is the law. Use the product according to all label instructions.
 - Pesticide residues in honey, honeycomb, or other related products must comply with any federal tolerances or tolerance exemptions under FFDCA. Following label instructions ensures food safe levels of pesticide residues.
 - In addition to federal restrictions, states may have their own statutes and regulations concerning the registration, sale, or distribution of pesticides which must also be followed within those states.

What is a varroa mite?

Varroa mites (*Varroa destructor*) are parasites that feed on species of honey bees (*Apis* spp.), leading to a reduced lifespan of the bees. They also transmit numerous honey bee viruses. The health of a colony can be compromised by an infestation of varroa mites. Once infested, the colony will likely die if left untreated.



Image of varroa mites from United States Department of Agriculture (USDA).

<https://www.usda.gov/media/blog/2014/05/13/helping-honey-bees-health>

*The full advisory may be viewed at <https://www.epa.gov/pollinator-protection/advisory-applicability-fifra-and-ffdca-substances-used-control-varroa-mites>.

Table 1: Currently registered EPA pesticide products approved for use against Varroa mites (*Varroa destructor*) in beehives

Registration #	Product Name	Active Ingredient
2724-406	ZOECON RF-318 APISTAN STRIP	Fluvalinate (10.25%)
2724-406-62042	APISTAN ANTI-VARROA MITE STRIPS	
2724-406-79671	APISTAN VARROA CONTROL STRIPS FOR BEES	
61671-3	FOR-MITE	Formic acid (65.9%)
73291-1	API LIFE VAR	Thymol (74.09%), Oil of eucalyptus (16%), Menthol (3.73%)
73291-2	API-BIOXAL	Oxalic acid dihydrate (97%)
75710-2	MITE-AWAY QUICK STRIPS	Formic acid (46.7%)
75710-3	FORMIC PRO	Formic acid (42.25%)
79671-1	APIGUARD	Thymol (25%)
83623-2	HOPGUARD 3	Potassium salt of hop beta acids (16%)
87243-1	APIVAR	Amitraz (3.33%)
87243-4	AMIFLEX [Restricted Use Pesticide]	Amitraz (2.0%)
94413-3	VARROXSAN™	Oxalic acid dihydrate (18.42%)
94424-1	ORGANISHIELD SUCROSE OCTANOATE (40%)	Sucrose Octanoate Esters (40%)
101743-2	EZ-OX TABLETS	Oxalic acid dihydrate (97%)
11556-138	CHECKMITE+ BEE HIVE PEST CONTROL STRIP	Coumaphos (10%)
11556-138-61671	CHECKMITE+ BEE HIVE PEST CONTROL STRIP	

Table 2: Tolerances or tolerance exemptions set under the Federal Food, Drug and Cosmetic Act (FFDCA) that cover the residues of the registered pesticide products for control of Varroa mites (*Varroa destructor*) listed in Table 1.

	Active Ingredient	Regulation	Commodity (Tolerance)
Tolerance Limits	Amitraz	40 CFR 180.287+	Honey (0.2 ppm) Honeycomb (9 ppm)
	Fluvalinate	40 CFR 180.427	Honey (0.02 ppm)
	Coumaphos	40 CFR 180.189	Honey (0.15 ppm) Honeycomb (45 ppm)
Tolerance Exemptions	Oxalic Acid	40 CFR 180.1381	
	Formic Acid	40 CFR 180.1178	
	Thymol	40 CFR 180.1240(a)	
	Sucrose Octanoate	40 CFR 180.1222	
	Menthol	40 CFR 180.1092	
	Potassium Salts of Hops Beta Acids	40 CFR 180.1333	
Tolerance Exemption with Limitations	Oil of Eucalyptus	40 CFR 180.1271	
*An exemption from the requirement of tolerance is established for residues of eucalyptus oil in or on honey, honeycomb, and honeycomb with honey when used at 2g or less eucalyptus oil per hive, where the eucalyptus oil contains 80% or more eucalyptol.			