Oxalic Acid Vaporizers

Northwest Bee Supply
By: Mike Radord
This what a Varroa would look like on a human.
Varroa Mites Kill Bees

Oxalic Acid Vaporizers are a good cost effective answer for small time Bee Keepers.
It’s Legal !!!

As of March 10\textsuperscript{th} 2015
The EPA has legalized Oxalic Acid for Treatment in Honey Bee hives in The United States.
This is a Oxalic Acid Vaporizer

What’s Needed:

- 12v battery (Charged)
- Oxalic Acid Crystals
- Mask for fumes
- Timer
Know your Enemy!

The Enemy
Many Bee Keepers are not aware how bad the Varroa Mite infestation is. Many folks tell me I don’t have any mites. I didn’t see any...The only sure way to tell is:

- See mites on sticky board
- Alcohol Wash = % infestation
- Powder Sugar Shake

In the USA 2% is cause for concern. In Europe 1% is the limit for concern.
What works???

• **Brood Breaks**

• **Harsh Chemicals**
  1. Formic Acid Kills Queens Brood And Bees,
  2. Mitesides, poisons stay in comb forever
  3. Mites become immuned

• **Mild treatments**
  1. Work for a while.

• **Oxalic Acid Treatments**
  1. Kills only Mites
  2. Doesn’t stay in Comb
  3. Doesn’t harm Queen Brood or Adult Bees
Pros and Cons

• **Brood Breaks When and How.**
  1. In the Spring and mid Summer. Still have mites but only a fraction of the parent colony.
  2. Time consuming.
  3. Reduce bee population.

• **Harsh Chemicals**
  1. Hard on all bees in the hive.
  2. Can only be used certain times of year.
  3. Stays in the Comb and mites become resistant to the treatments.
  4. Does kill mites at a cost to the colonies health.

• **Powder Sugar Shake**
  1. Time consuming.
  2. Doesn’t kill mites.
  3. The mites fall off the bees and climb back up into the hive.
  4. Make the bee keeper feel good. You aren’t killing bees. But the mites will win.
Oxalic Acid Vaporization

1. Kills phoretic mites on contact, 95% of phoretic mites in 24 hours
2. Can be done anytime of year. (best with no brood) why?
3. Kills mites only, won’t harm Queen, Adult Bees or Brood.
4. Vaporization treatment, 3 times 5-7 days apart.
6. Can be done upon package installation. (bloodless condition)
7. Mites DO NOT become immune to Oxalic Acid. It can be found in Rhubarb leaves. Many plants in nature.
8. Oxalic Acid is just that; An Acid NOT a POISON. That’s why mites don’t become resistant to the treatment.
9. Europe, Canada, New Zealand, Australia, have been using Oxalic Acid Treatments for over 20 Years. With NO resistance noted.
How Oxalic Works

1. Oxalic is an Acid. Oxalic Acid is found naturally in nature.
2. Oxalic Acid works thru the mites feet into their blood.
3. Doesn't stay in comb or hive.
4. Kills only the Mite, not the Queen, Adult Bees, or Brood.
5. Europe and the rest of the world have been using Oxalic Acid for 20+ years.
6. Extremely cheap to use. One reason it has not been legalized in the USA. No money to be made because its so cheap to use.
7. Oxalic is NOT a poison. Poisons build up in a hive.
Gerhard Brüning describes his experiences with oxalic acid as a treatment. He discovered that oxalic acid penetrates the mite through the feet. Doesn't matter if you dribble or vaporize. He vaporizes, because it doesn't harm the bees (unlike dribbling). You find pictures here in one of his reports: [http://www.varroamilbe.ch/bericht3.pdf](http://www.varroamilbe.ch/bericht3.pdf). Unfortunately, it is German. There he describes what occurs when oxalic acid is applied to a hive. The oxalic acid builds at the adhesive parts of the mite's leg: the paired lobes (pulvilli) where it forms a crystal. After three hours the mite is dead. The crystal then breaks down and only a small residual remains forming akin to a drop. Here are some pictures from the mite's adhesive lobes under a microscope: See the lobes attached to end of the legs. In detail. This is where the oxalic acid accumulates and forms a crystal. Mites do try to shake it off, but can't. The theory behind it is that the adhesive lobes need to be moist in order for the mite to stick to the bee or other surface. The moisture comes through the leg of the mite, through the hemolymph of the mite. [https://en.wikipedia.org/wiki/Hemolymph](https://en.wikipedia.org/wiki/Hemolymph). Through the lobes there is direct access to the mite's hemolymph and that is how the oxalic acid penetrates the mite and kills her. Bees are not harmed by vaporization because they have a different mechanism at their adhesive lobes.

(OA dribbling is harmful to the bees as they eat the sugary solution and the oxalic acid harms the walls of their guts.)
A not so healthy hive a few days ago. The bees pulled brood infected with varroa. Sunken cells possible dead brood.
Spotty brood pattern from the dead infected cells and “Bald Brood” A condition where my Russians will not capp or will uncap infected cells.
Lets Kill the most destructive parasite to inhabit a bee hive.

Wanted

VAPORIZED !!!!

The Enemy
20 Hour Drop
48 Hour Drop
After a cleanup
of sticky board
Comparative Treatment Cost

• MAQS        49.95 equals 4.99 per treatment per hive

• HopGuardII  44.00 equals 4.40 ea. 2 per hive 8.80 per hive

• Apivar      33.99 equals 3.99 = 7.00

• Miteathol   45.50 equals 4.55 = 9.10

• Apiguard    33.50 equals 3.50 = 7.00

• Apistan     29.35 equals 2.35 = 4.70

• Apilife     29.95 equals 2.99 = 5.98

Oxalic Acid Vapor is .04 per treatment X 3 = 12 cents. As many times a year as you like. Please do a % sample of your infestation of your hive. Before and after. Treat in the summer if you have to. My bees this last summer were the best they have been. I loaded up on honey.
Remember

You must treat 3 times 7 days apart, 80% of mites remain in the brood cells after first treatment.
Mites start dying 3 hours after treatment.
In the first 24 hours 95% of Phoretic mites will be killed.
Learn the Mite and Honey Bee life Cycles.