

Investigating Heating Pads as a Means of Combating

Varroa Mite Infestation of Honey Bee Hives

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Background

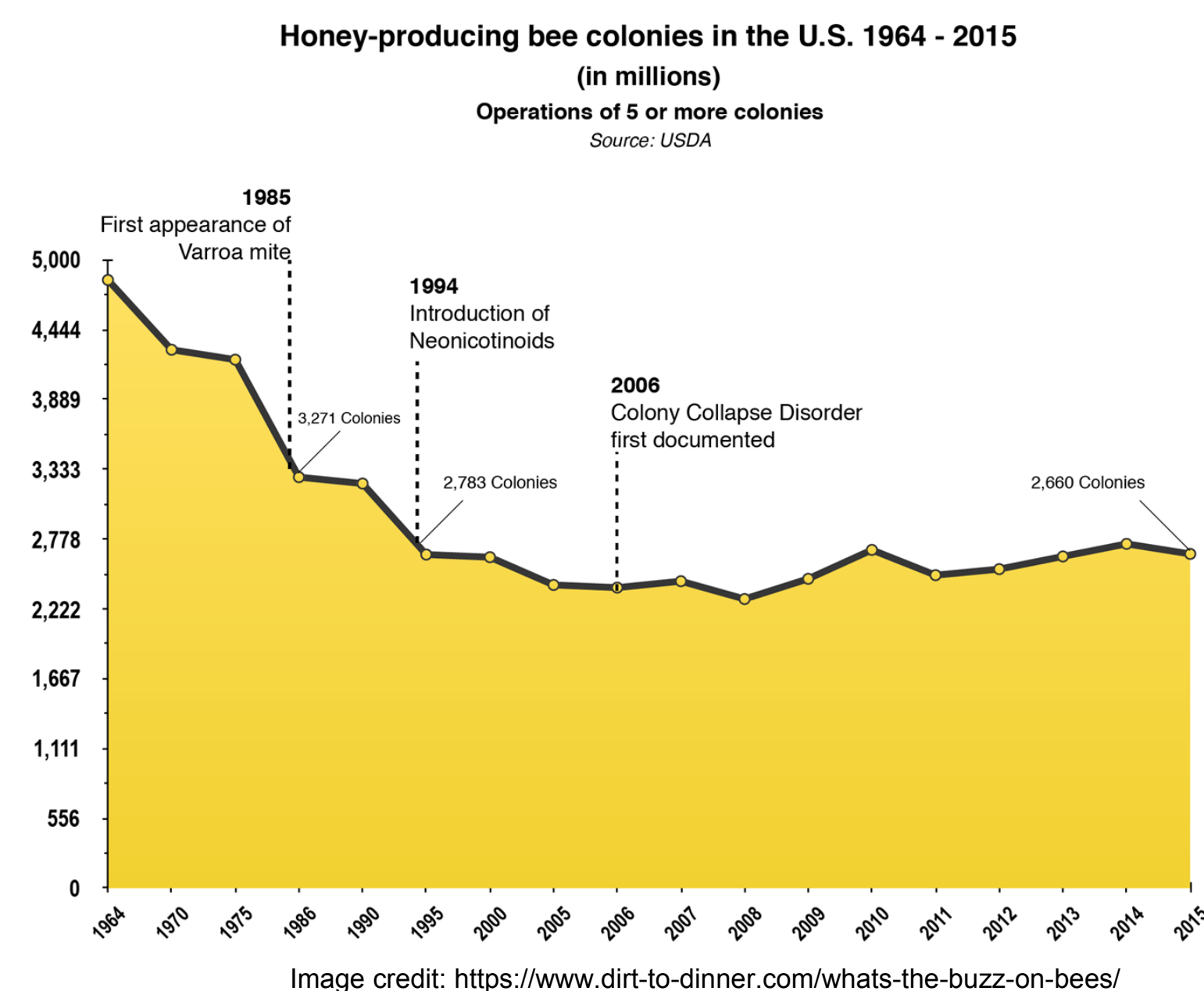
What's a Varroa mite?

- A tiny parasite that feeds off honey bees' fat.
- Enough mites in a beehive can lead to the collapse of the colony



Why does it matter?

- Varroa mites one of the leading causes of Colony Collapse Disorder (CCD) (2018)
- CCD causes an average of 30% of all attempted hives to collapse (2018)
- Roughly 30% of our diet directly or indirectly benefits from honey bees as pollinators (2018)



Experimental Setup

How it works

- Heating pad heats up the inside of the beehive to exactly 106 degrees Fahrenheit for 2.5 hrs (Industries)
- This temperature is slightly above what varroa mites can survive and just below what honey bees can
- The varroa mites die and fall to the bottom board of the hive
- Repeat heating cycle 3 times a year (Industries)

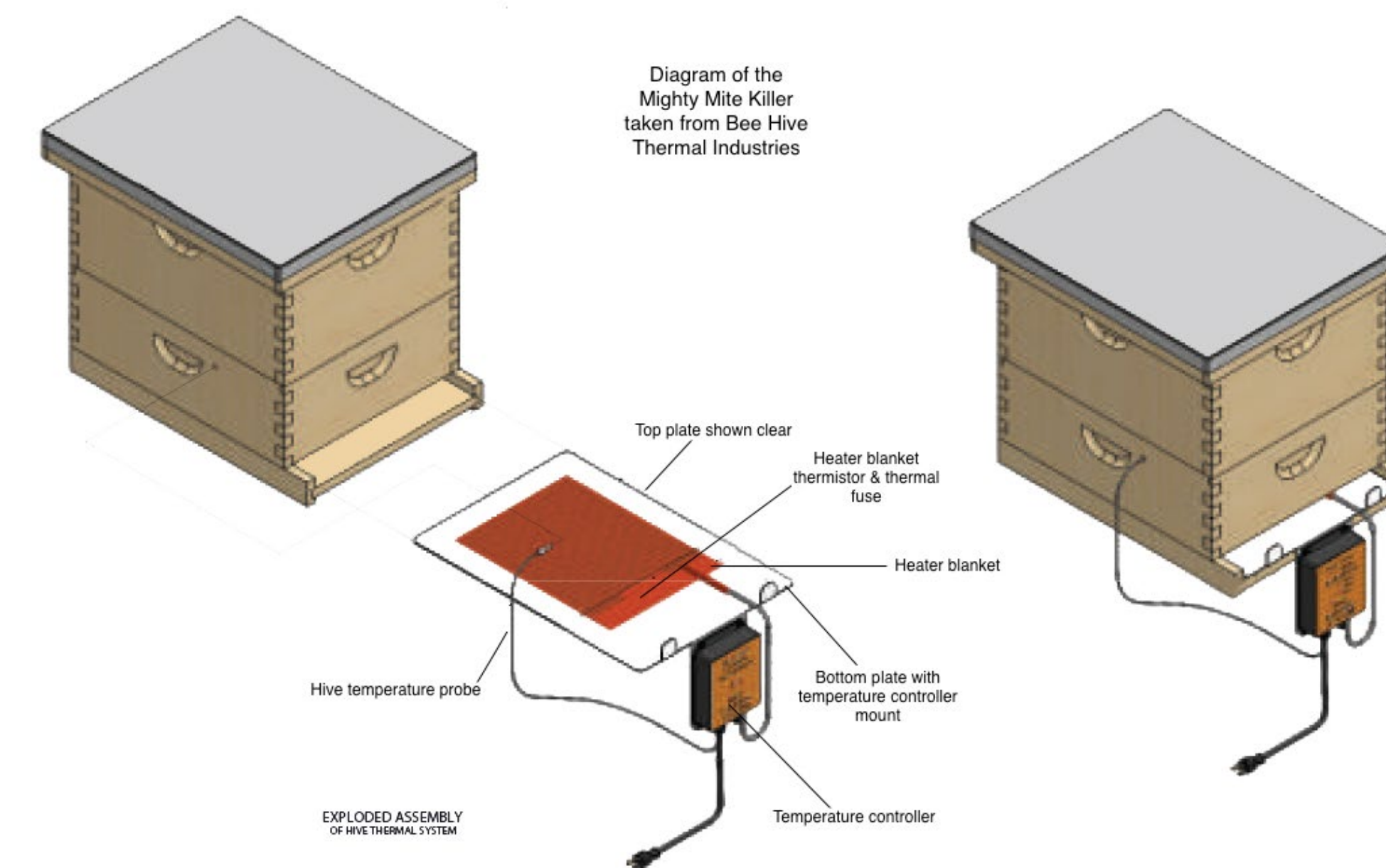


Image Credit: Bee Hive Thermal Industries

Preliminary Results

Initial testing conducted by members of the Volusia County Beekeeping Association indicates that the heating pads are:

- Safe for bees
- More effective than other methods at killing Varroa mites
- Faster-acting than other methods

Bibliography

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(2017, April 5). *What's the Buzz on Bees*. Retrieved from <https://www.dirt-to-dinner.com/whats-the-buzz-on-bees/>