

# SUGAR ROLL TEST FOR VARROA MITE COUNTS

It's safe to say that your honeybee colonies have Varroa mites today or will have them soon. When untreated or treated ineffectively, colonies can fail. To maintain healthy colonies, you need to monitor for Varroa mite levels and treat to reduce mite loads. Although there are lots of ways to test for Varroa mites, the sugar roll method is easy, reliable and doesn't kill many bees.

The kit includes a white plastic dish tub, a quart Mason jar with a screened lid, a spray bottle, a half-cup measure, some powdered sugar, a log sheet, and these instructions

## Online Resources

Video: <[https://youtu.be/ZvWfGMvy\\_zs](https://youtu.be/ZvWfGMvy_zs)> (or search YouTube: Jorik Honeybee Sugar Shake Mite Count)

Instructable: <<http://www.instructables.com/id/Sugar-Coated-Honey-Bees-or-How-To-Test-for-Varroa-/>>

Tools for Varroa Management: <<http://honeybeehealthcoalition.org/varroa/>>

**Step 1:** Put two tablespoons of powdered sugar in the Mason jar and a cup or so of water into the spray bottle. The tub, half-cup measure and a paper plate should be clean and ready. Have a pen handy, too. Light your smoker, if you plan to use it. You know your bees.

**Step 2:** Open the hive and pick a frame from the middle of the brood box. The frame should have capped *and* uncapped brood, plenty of nurse bees, and **no queen**.

**Step 3:** Shake some bees off the brood frame into the tub. If you tap a corner of the frame against



the bottom of the tub, the bees will fall in.

Quickly return the frame to the hive and jiggle the tub so that the bees slide into one corner. Then...

**Step 4:** ...scoop a half-cup of bees from the tub and



pour them into the Mason jar. Put the lid on the jar. A half cup contains about 300 bees.

**Step 5:** Pour any bees left in the tub back into the hive. Temporarily close the hive (for example, you might use the top board).

**Step 6:** Roll and shake the jar vigorously for a minute to coat the sample of bees with powdered sugar and dislodge any mites. Set the jar aside in the shade for 3 to 5 minutes while you inspect the rest of the hive.



**Step 7:** Spray a little water on a white paper plate, then invert the screened jar over it and shake. Do it quickly, otherwise the bees can begin to *sweat* which may cause sugar and mites to stick to them and mess up your count.

**Step 8:** Open the hive and the jar and pour your sugar-coated bees back into the hive. Most will be fine and their sisters will enjoy cleaning them up. Close the hive.

**Step 9:** Spray more water on to the plate as needed to dissolve the powdered sugar and make the mites easy to see. Count the mites. They look like little mahogany-colored dots.

**Step 10:** Record your results on the log sheet. Decide whether to treat or not.

These instructions are based on an *Instructable* by Jennifer Berry (see link above). Photos from that *Instructable* are used by permission.

### Treatment Guidelines

The treatment threshold for Varroa depends on many factors: region, season, stage of the colony, etc. One reason that it's important to keep a log of test results is so you can relate colony health to number of mites counted.

The Bee Informed Partnership suggests that, on average, 3 mites per 100 bees indicates the need to treat. Following this guideline, you would want to...

**...treat if the 300-bee sugar roll test reveals 9 or more mites!**

See the Honey Bee Health Coalition's excellent article *Tools for Varroa Management* (link at the top of these instructions) for lots more information including available treatments.