

# HOW TO MEASURE VARROA MITES IN HONEY BEE COLONIES



The Varroa mite (*Varroa destructor*) is a parasite that feeds on immature and adult honey bees (*Apis mellifera*). When left untreated, colonies with high levels of Varroa mites will die within months. The best way to ensure the survival and productivity of your bee colonies is to regularly measure your Varroa mite load(s) and treat as necessary. This guide will walk you through measuring your mite load step by step.

## What you will need:

- ⇒ White dish bin
- ⇒ Teaspoon measuring spoon
- ⇒ 1/2 cup measuring spoon
- ⇒ Powdered sugar
- ⇒ Mason jar
- ⇒ 1/8 inch hardware cloth cut in shape of jar lid

You will also need to be able to spot your queen.



Workers

Queen

## STEP 1: SELECT A FRAME TO SAMPLE

For best results, select a brood frame covered in worker bees. **However it is important that your queen is not taken into this sample!** If you are not confident spotting queens you can select a pollen frame instead. The queen is more likely to be on a brood frame and less likely to be on a pollen frame. The queen is about twice as long as a worker and usually has a dark thorax with little hair (see previous photo).

## STEP 3: TAKE A SAMPLE OF BEES

Use a brush or gloved hand to quickly brush the bees off your selected frame and into the white bin.

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## STEP 4: PUT 1/2 CUP OF BEES IN YOUR JAR

Scoop 1/2 cup of bees and dump them into your mason jar with the powdered sugar. (It doesn't need to be perfectly 1/2 cup of bees, just a close as you can make it.) Then twist the screened lid onto the jar.



## STEP 2: PREP YOUR JAR

Remove the top of your mason jar and add two heaping teaspoons of powdered sugar.



### STEP 5: SHAKE AND REST

Once that the lid is secured, shake the jar so that all the bees are evenly coated in powdered sugar (like little ghost bees). Let the bees sit in the powdered sugar for at least 60 seconds. (You can go longer).



### STEP 6: LET THE EXTRAS GO HOME

While you wait for the powdered sugar to do its magic; take any bees left over in your white bin and dump them back into the hive.



### STEP 7: SHAKE OUT THE MITES

Now take your mason jar with the powdered sugar coated bees and vigorously shake it into the white bin like a salt shaker. Pretend that you are trying to evenly coat the bottom of the bin in powdered sugar. Shake the jar into the bin for 60 seconds.



### STEP 8: LET THE GHOST BEES GO HOME

Set your bin to the side for now, open the top of your mason jar and dump the powdered sugar covered bees (ghost bees) back into their hive.



### STEP 9: COUNT YOUR MITES

It may be easiest to add a bit of water to the bin to dissolve the powdered sugar and make the mites easier to see. The mites are small, oval, and reddish brown. Count how many you see in the bin, if there are four or more then it is time to apply treatment.



## FOR HEALTHY BEES STAY MITE FREE!

This factsheet is brought to you by:

The Utah State and County Cooperative  
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For more information visit:

[www.ag.utah.gov/plants-pests/beekeeping.html](http://www.ag.utah.gov/plants-pests/beekeeping.html)

To request a health inspection:

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