

Powder Sugar Roll For Varroa Mites on Honey Bees.

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www.extension.umn.edu/honeybees

To keep your honey bee colonies healthy, it is important to determine the level of varroa mites in your colonies. This method provides a good estimate of the number of varroa mites on the adult bees. This method has the advantage of not killing the bees.



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1. The first step is to make a container with a cover made of 8x8 hardware cloth. An easy method is to use a wide-mouth canning jar. Use a ring type cover. Cut a circle of 8x8 hardware cloth the size of the cover that fits in the ring and use it instead of the cover.



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2. You will also need something white to shake the mites and powdered sugar into. You can just shake them onto a piece of paper if it is not windy. A white container works best but any light color (yellow) would be ok.



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3. Shake about 200-400 bees into the container. You can see we shake the bees from a frame into a bent piece of sheet metal (flashing) to help pour them into the container.



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4. 1 fluid oz. = approximately 100 bees. 1/4 cup = approximately 200 bees. You will have to shake the bees in, then tap the bottom of the container to get all the bees on the bottom of the container to measure them.



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5. With the bees in the container place the 8x8 screen on top and secure.



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6. Put about 2 Tablespoons of powdered sugar into container. Shake the bees with the powdered sugar until they are well coated. Let the container sit for about 1-2 minutes.



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7. Tip the container upside down over the white container and shake the powdered sugar and mites out through the screen.



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8. Continue to shake for at least one minute to be sure you have all of the mites.



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9. Count the number of mites in the powdered sugar. If you have trouble seeing them you can add a small amount of water to dissolve the sugar, making the mites easier to see.



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10. This is what the mites look like that you are trying to see.



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11. Return the bees to their colony.



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12. The bees will survive. Once they are cleaned up they can go back to work.

- The standard number for mites in the colony is the number mites per 100 adult bees (# mites/100 adult bees).
- If you know how many bees were in your sample, you can calculate the number of mites per 100 bees.
- If you sample 300 bees, you just divide by 3. For example, if there are 12 mites in your sample, then there are 4 mites per 100 bees.
- For other amounts of bees in the sample use this formula.

$$\# \text{ mites}/100 \text{ adult bees} = \frac{\# \text{ of mites in the sample}}{\# \text{ of bees in the sample}} \times 100$$
- For treatment options go to BeeLab.umn.edu