



# ECROTEK

## Sugar Shaker How to perform a sugar test

For the latest information please visit your States Bio security website or Department of Primary industries.

**NSW DPI 1800 084 881 (9am - 5pm, 7 days a week)**

Instructional videos can be viewed at [www.ecrotek.com.au](http://www.ecrotek.com.au)

A sugar shake to monitor for mites should be a part of your varroa surveillance program. A sugar shake works by sampling 300 bees and then dislodging any mites off to be detected. Sugar shakes on their own are not a complete surveillance solution. They can give a false negative result. However, when used repeatedly and widely the detection rate is greatly increased. Varroa washes should be completed in conjunction with Drone larvae inspection, and floor board inspections (sticky boards).

### YOU WILL NEED

- Sugar shaker jar and sieve lid
- Icing sugar, confectioners' sugar and spoon
- Caster or baking sugar can not be substituted.
- A wide shallow water container e.g. ice cream container or dish
- Record keeping book or spreadsheet

### DIRECTIONS

1. Record the details of the hive being checked, the date, hive location and any notes e.g. frames of bees, frames of brood, peculiar symptoms or behaviors.
2. Prepare your sugar shaker by removing the strainer lid. Retrieve a wide container of water (5mm deep is sufficient) or large piece of paper to shake your sample onto. White is best as it makes the mites easier to detect.
3. Following good Beekeeping practice access your hives brood box.
  - a. Nurse bees must be sampled. Do not test bees from honey boxes or foragers from open sources e.g. drum feeders.
4. Remove a brood frame and inspect both sides thoroughly for the queen.
  - a. At this point complete your Drone brood inspection also.
  - b. If the queen is present replace the frame and select another.
5. Shake the bees from the selected frame into a bucket. Take a half cup measure of bees (125mls) and put it into the sugar wash jar.

6. Screw the lid onto shaker jar. Place several teaspoons of icing sugar through the sieve lid.
7. Place the tested frame back into the hive - reassemble the hive.
8. With the lid tightly on, shake and roll the jar to help dislodge mites. Do this for several minutes. Do not invert the jar while doing this.
9. Using the strainer lid to filter bees, shake the jar over the paper or water container until all the sugar has dislodged from the sample.
10. Inspect the debris that passes through the shaker lid and is now on the paper or water container.
11. If the test is negative record your result, gently place the bees from the shaker jar outside the hive entrance on the top bars of the hive. Repeat on the next hive.
12. If varroa are present please contact state biosecurity authorities immediately and follow all instructions. If you are unsure of a potential mite in your sample, consider it positive and contact the relevant authorities.



## NOTES

1. A sugar shake does not definitively mean there are no varroa in a beehive.
2. Sugar shakes are a surveillance tool and regular and repeat testing is required.
3. Record all tests undertaken.
4. A sugar shake will reliably detect mites when there are several hundred in a hive. For this reason, Drone brood inspections and floor board inspections should be carried out simultaneously.
5. For a more sensitive method please consider testing for mite drop when paired with a registered chemical or oxalic treatment.
6. If you have fewer than 8 hives in an apiary, test all of your hives.
7. For large apiaries we recommend spot checking 10 or more hives, particular attention should be given to drift collector hives (e.g. end of rows, down wind) or hives that are weak for an unknown reason.

For more information and videos on how to use the sugar shaker please refer to

**[www.ecrotek.com.au](http://www.ecrotek.com.au)**