

M/C Lineage Admixture Assay

Materials

- Stamped Addressed Return Envelope
- Ziplock Bag
- Labelled Sample Tube (containing buffer solution)
- Labelled Sample Information Slip
- Tweezers

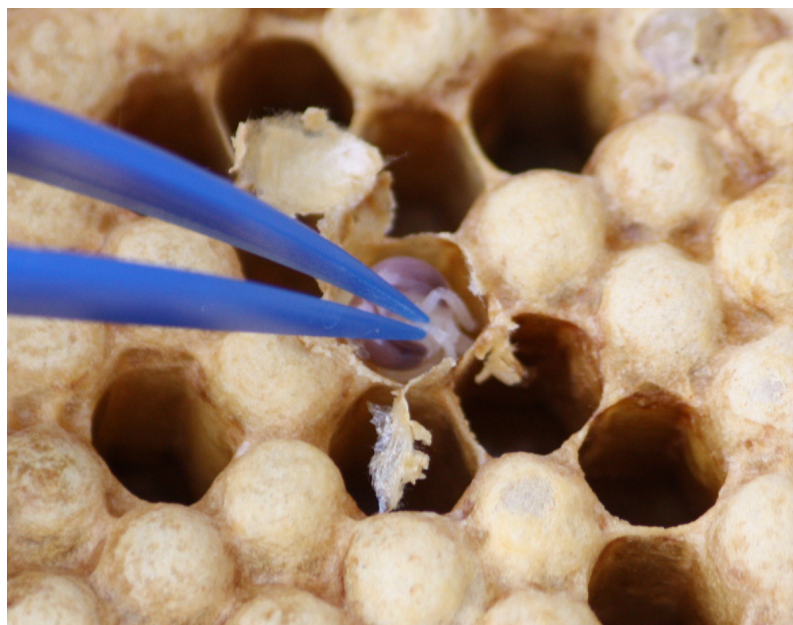
Introduction

We require a sample containing a maximum of 50 antennae, taken singly from **worker** pupae. The same number of antennae must be selected from each colony: for example sampling 5 bees from 10 colonies; 10 bees from 5 colonies, or 25 bees from 2 colonies. We recommend sampling a minimum of 2, and ideally 5 or more pupae per colony, to better represent the makeup of each colony.

Method

You may wish to use a magnifying glass, reading glasses and a head torch or other bright light when sampling.

1. Remove a frame containing capped brood from the colony, and brush or shake off all the bees.
2. Move to a level work surface away from the hive, and position the frame for easy access to the cells.
3. Using the handle end of the tweezers, carefully remove the cell capping, and inspect the **worker** pupae. Only sample antenna from worker with coloured eyes (pink, purple or darker). Younger samples will be too soft to easily extract.
4. Carefully grab one of the antenna at the base with the tweezers and gently pull with a slight twisting motion. Place in the sample tube.
5. Repeat with other pupae from the same colony.
6. Return the frame to the colony. Bees will repair uncapped cells and remove damaged brood.



Carefully removing a single antenna from a pupae.

7. Repeat steps 1-6 in different colonies for a total of 50 pupae – 50 antennae in the tube, making sure it is fully sealed.
8. Complete the sample slip with the required information.
9. Allow the tube to sit undisturbed for at least 6-8 hours, with the antennae immersed in the buffer solution, to allow them to become fully saturated, before returning the sample.

Sending in Samples

1. Place the sample tube and tweezers into the ziplock bag and seal.
2. Place the ziplock bag into the padded envelope.
3. Place the sample slip into the padded envelope.
4. Seal and return by post.

Notes

- If you are sampling colonies at multiple locations, please specify a postcode for each location on the sample slip.
- If there is a delay in returning samples, keep them in the ziplock bag in the fridge until ready to post. Do **NOT** freeze the samples.
- Returning the tweezers is optional, but if returned they can be cleaned and reused, reducing our reliance on single-use plastics.
- If you have any problems with your sampling kit or collecting samples, please get in touch:
email: contact@beebytes.org, or telephone: **0131 358 3993**