



Processing Tyre Traps

A tyre trap can be made by using a car, cart or small plane tyre. The tyre must have a hole to allow the contents to be poured in a tray (Figure 1).



Figure 1a) Tyre trap with signage. b) Hole drilled to empty the content

Pour the entire contents of the tyre trap through the drainage hole of the tyre into a white tray, move your tray into a sunny or well illuminated spot, if there is not enough light use a torch (Figure 2). White trays will make it easier to spot larvae.



Figure 2) Emptying a tyre trap into a white container.



Figure 3) Use a plastic Pasteur pipette to remove larvae from tray.

Using a plastic Pasteur pipette, remove all the larvae from the tray into one standard sample tube (Figures 3 and 4). First instar larvae are very small and can be hard to see. It can be useful to look for their shadows on the base of the tray to spot them.



Figure 4a) Larvae are put into a standard sample tube. Removing excess water to allow more larvae to be added to the tube; **b)** plastic Pasteur pipettes with tips cut to various sizes.

Water can be siphoned out of the tube to allow more larvae to be added (Figure 4). Alternatively a bigger sample tube can be used in the field and processed into a smaller tube back at the office. If the sample contains a large number of larvae see the Processing Large Samples document.

You may need a Pasteur pipette with a larger opening for larger larvae and pupae (Figure 4b). This can be done by trimming the end of a plastic Pasteur pipette to an appropriate width.

Label the tube **IN PENCIL** with unique identifier (sample number), sampler, date, and site ID (Figure 5).

NB: The unique identifier should not be one that has been used previously as it makes finding historic samples difficult. Pen will be rubbed off the tube if the ethanol leaks, making the tube unreadable.

Add the details of the sample into collector's notebook and or in the Kobo App. Enter the sample into the [Online National Mosquito Surveillance Database](#).

NB: For tyre traps the number of dips is always one. Trap nights will be seven if surveillance occurs on the same day each week.

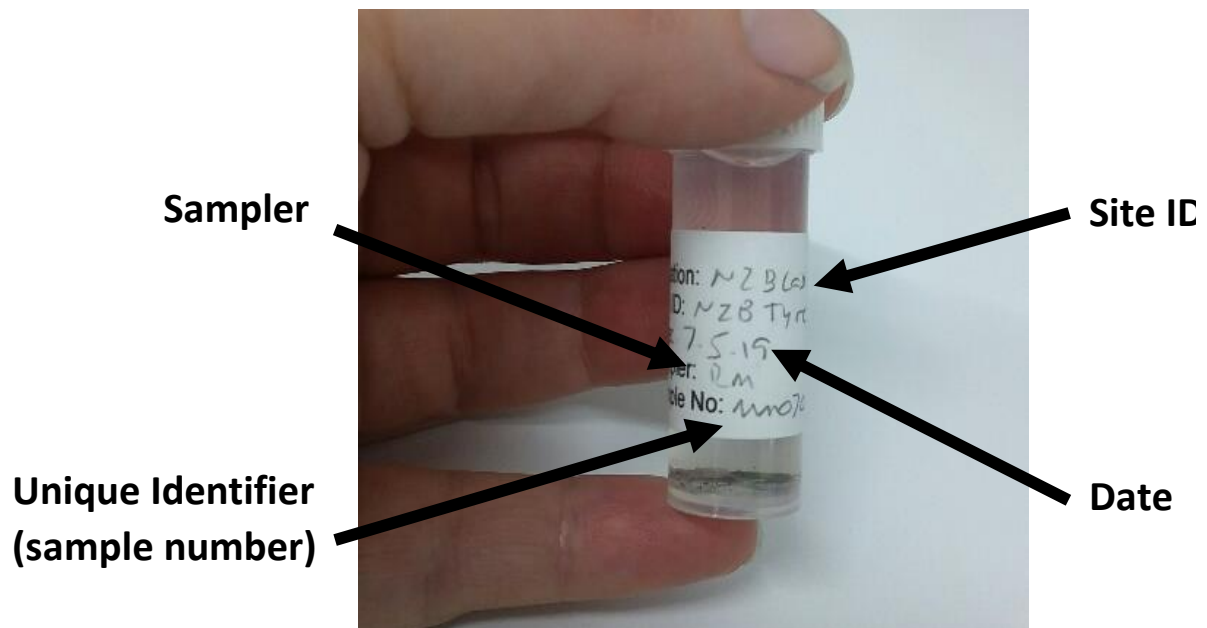


Figure 5) Tube clearly labelled in pencil with necessary details.

The inner surface of tyres should **not** be allowed to get dirty. Algae growth may be detrimental for the mosquito targeted species (i.e. Female container breeders mosquitoes would avoid laying their eggs in water with high algae concentration). Remove any large debris (e.g. grass clumps) and scrub the tyre using a dish brush and rinse it before replacing the water (Figure 6).

NB: Do not scrub the tyre if it was negative AND the water is clear.



Figure 6) clean out the tyre when dirty.

Refill the tyre with unused but aged water that is at least one week old (Figure 7a). In the laboratory or office, fill a 10 litres container with water and add one rabbit pellet or a handful of dry grass, leave the water to sit for a week and then use to refill the tyre traps. In the field add 1 S-methoprene pellets per litre (Figure 7b).



Figure 7a) filling tyre with aged water; **b)** S-methoprene and rabbit pellets

Replace the tyre and check the signage is still in place and readable (Figure 8).



Figure 8) replacing the tyre back where it was found.

At the lab or office, empty as much of the water and debris from the tube as possible, (Figure 9a) and replace with at least 70% **ethanol** (Figure 9b). The ethanol should be filled to the lid of the tube to ensure that there is a sufficient amount to cover all the larvae and prevent them from drying out if the sample is tipped on its side during transport.

NB: Use only ethanol to preserve larval samples.



Figure 9a) remove as much water from the tube as possible; **b)** replacing water with 70% ethanol.

