



Where to set up mosquito traps

This guideline has been put together to assist you with finding the most suitable location for the recommended traps for the National Mosquito Surveillance Programme.

In most cases, finding a location at POEs which matches **all** the recommendations listed in this guideline may not be possible. Work together with the Environmental Manager at each POE to select the best possible spot for the traps. New Zealand BioSecure Entomology Laboratory staff will also be available to assist you with the process of finding the best available spot for each trap.

The correct placement of a trap is an important factor that affects the trap effectiveness. All traps should be placed close to interception high risk areas in sheltered locations and out of the way of operations.

All traps must display a sign containing the following:

- Do not touch
- The purpose of the trap
- A contact number



Where to set a BG Trap - Checklist

A BG trap is an adult trap designed to catch adult *Aedes* mosquitoes, specifically *Aedes aegypti* and *Aedes albopictus*

✓ A sheltered area out of the wind, rain and direct sunlight

The trap is quite lightweight and need to be secured to the ground. If not possible it can be secured to a wall. If the trap is in direct heavy rain the top of the trap will get wet and the air current will stop, the catch bag gets very wet and the mosquitoes will be ruined.

✓ Where the trap is visible

The upper part of the trap should be clearly visible, the white and black colours of the BG trap are attractive to mosquitoes. A distance of at least 0.5 meters above the top of the trap needs to be kept clear. The trap should be placed 0.5 meters from the walls.

✓ Close to mosquito resting areas and breeding sites

Ideally, the trap should be placed close to bushes, shrubs or other plants and close to mosquito breeding areas. Where these sites are not available they can be mimicked by placing a tyre trap nearby.

✓ Somewhere it can be placed securely on the ground

Placing the trap on (or very close to) the ground increases the chances of catching the target species *Aedes aegypti* and *Aedes albopictus*.

✓ An area where there is people movement, but out of the way

Host seeking female mosquitoes are attracted to areas with people due to CO₂ and odours they emit. The trap should be out of the way of operations and properly labelled, other wise is likely be get knocked, dismantled or switched off.

✓ Close to areas where items from overseas are being unloaded

E.g. close to the baggage belt in airport or close to where containers of imported goods are being opened. Having the trap close to these areas increases the chance of catching any exotic mosquitoes that may be in the goods or baggage coming from overseas.

✓ Close to a power point to plug it in permanently

Placing the trap close to a power point where it can be permanently plugged in avoids the use of batteries and needing to change them regularly.



Where to set a Gravid Aedes Trap (GAT)

A Gravid *Aedes* Trap (GAT) is an adult trap. This trap is designed specifically to target *Aedes aegypti* and *Aedes albopictus* female mosquitoes that are searching for a suitable place to lay their eggs.

✓ **In a shaded area out of full sun, rain and open wind**

The trap is quite lightweight and need to be secured to the ground.

✓ **Close to vegetation if this is possible**

Mosquitoes rest in shaded areas, out of the wind and rain and on vegetation. It is important to look for sites with these qualities to increase the chances of your trap being successful.

✓ **No competing water sources close to the area**

If there are competing artificial containers, the female mosquito may choose these other containers for ovipositing rather than entering your trap. You should remove all other possible water sources.

You should add ponds or areas of standing water that can not be removed into your routine surveillance.

Ideally, the trap will be the only available breeding site close to the mosquito resting zone.

✓ **An area where the trap is visible**

The black colour of the trap is attractive to mosquitoes. The trap needs to be located where its visible and protected from the elements.

✓ **Out of the way of working operations and dangerous/restricted areas**

If you place a trap in the way of operations, it is likely be get knocked or broken. If it is in an area which is very hard to access it may be difficult to check the trap routinely.

Be aware that the GAT is often confused by a rubbish bin, label the trap properly.



Where to set a Light Trap

A light trap is an adult trap that uses light and CO₂ to attract mosquitoes. The combination of CO₂ and light makes it a useful trap to catch unwanted species such as *Culex annulirostris*, *Aedes camptorhynchus* and *Anopheles* spp.

✓ **A sheltered area out of the wind, sun and rain and far from light competition**

Place the trap in a dark sheltered spot without competing light sources.

✓ **Close to breeding areas and to vegetation if possible**

Placing a light trap close to permanent ponds and areas known to collect water will help to monitor mosquitoes breeding in these areas. Note that these areas holding water should be part of routine larval surveillance or be removed if possible. The trap can be also placed close to a tyre trap. Mosquitoes rest and shelter in vegetation during the non biting hours.

✓ **An area where the CO₂ bottle can be secured to a solid object**

It is important that the CO₂ bottle is secured to a solid object so that if knocked it remains upright and connected to the trap.

✓ **Out of the way of working operations and people**

If you place a trap in the way of operations, it is likely be get knocked or switched off. People also produce CO₂ creating competition for the trap.

✓ **An area with enough space to set up a stable tripod or with a structure from where to hang the trap**

Having sufficient space around the trap and a stable tripod made up of steel poles will allow the trap to remain standing if knocked or in high winds. The trap can be also placed hanging from a tree branch or the ceiling.

✓ **Somewhere it can be fixed to a wall with a bracket or hook**

Having somewhere that the light trap can be fixed permanently will remove the need for a tripod and allow the trap to be more secure.

✓ **Close to a power point to plug it in permanently**

Placing the trap close to a power point where it can be permanently plugged avoids the use of batteries and needing to change them regularly.



Where to set a Tyre Trap

A tyre trap is a larval trap. It attracts container breeding species such as *Aedes* species as well as some *Culex* species.

✓ In a shaded area out of full sun and open wind

Mosquitoes rest in shaded areas, out of the wind and on vegetation during the day. Having a trap in a place with these qualities will increase the chances of your trap being successful. A trap in full sun will also dry up during long hot days if using a smaller type tyre.

✓ Close to vegetation if this is possible

Mosquitoes rest and shelter in vegetation during the non biting hours.

✓ No competing water sources close to the area

If there are competing water sources such as a small pond or artificial containers filled with water where you plan to place the tyre trap, the mosquito may choose these other areas to breed. You should also consider adding the pond into routine surveillance if it is not already being sampled. Remove any artificial containers pooling water that are possible. If not possible to remove you should inform the manager of the site of the issue.

✓ Close to adult traps

Placing your tyre trap close to adult traps should increase the number of mosquitoes around adult traps and hence increase the chances of collecting mosquitoes.

✓ Out of the way of working operations or likely to be disturbed

A trap in the way of working operations is likely to get knocked, disturbed or moved. This can make the trap unsuccessful.