Improvements for the New Zealand mosquito surveillance program at sea- and airports

BG-Sentinel mosquito trap:

The BG trap mimics convection currents created by a human body employs attractive visual cues and releases artificial skin emanations through a large surface area.
They have proven to be very efficient but are not to be used in hard weather conditions.
We suggest setting up the BG sentinel trap in an area, sheltered from wind, heavy rainfall, and direct sunlight, in or around buildings, esp. for the airports. This trap is to be used with or without CO2 to specifically capture selected mosquito species.
Without CO2: *Aedes aegypti, Ae. albopictus, Ae. polynesiensis, Culex quinquefasciatus, Cx. pipiens.*
With CO2: *Ochlerotatus spp., Anopheles spp. and Coquillettidea spp.* and also Simuliidae, Ceratopogonidae.)
A power source is required to operate the fan. Cables are coming with the trap to use either a main power supply unit (EU Version 220V input, 12V output), or when using batteries, 9 to 12 V DC (max. 280 mA) deepcycle batteries are recommended. A battery capacity of 10 to 11 Ah for each trap with a 24 hr trapping period is needed.

GAT (Gravid Aedes Trap)

A recently developed novel trap (passive trap) has proven successful in capturing large numbers of *Aedes, Anopheles, Culex* and *Verrallina* mosquitoes without the use of power. These rely upon luring mosquitoes into a translucent “passive” trap from which those mosquitoes, attracted to the light entering the translucent body, cannot find their way out.

The passive trap approach was adopted to capture gravid females of container breeding mosquitoes. The new trap called GAT (Gravid Aedes Trap) uses a translucent top above a black bucket of infusion. Knock-down surface spray, or the optional blue LINNs, can be used to reduce the potential for escape of adult mosquitoes once trapped.

The GAT is a useful tool for capturing adult *Ae. aegypti* and may be suitable for other container-inhabiting species such as *Aedes albopictus* and *Culex quinquefasciatus*.

The GAT, used for surveillance programs is inexpensive, do not require electrical power, are not labor intensive, nor do they require difficult usage of adhesives, which damage the specimen (sticky ovitraps). The GAT is useful wherever container-breeders are suspected, independently on access to electrical power. We suggest using GATs mainly at seaports but also at airports. Since they are very light weighted they should be secured or positioned sheltered from wind.