



Anti-mosquito measures

Purpose

The information provided below is to help the management of construction sites in preventing and controlling the breeding of mosquitoes – *Aedes albopictus*.

Mosquito problems

2. Mosquitoes cause great nuisance to man. Moreover, some of the species pose threats to human health as vectors of diseases like dengue fever. Dengue fever is a severe mosquito-borne disease characterized by high fever, headache, rash, joint and muscular pain. *Aedes albopictus*, which is a vector of dengue fever and dengue haemorrhagic fever, is prevalent locally. They breed in rural and urban areas and their breeding sites can be grouped generally into two categories: the artificial receptacles like containers, discarded tyres, lunch boxes, cans, clogged surface channels; and naturally occurring habitats, e.g. tree holes, bamboo stumps and leaf axils.

Anti-mosquito programme

3. To control and prevent mosquito problems in general and dengue fever vector in particular in construction sites, carefully planned anti-mosquito programme is needed for each individual construction site. As participation is important for the success of the programme, staff of construction sites are encouraged to take part in the mosquito control.

Objectives

4. The anti-mosquito programme aims to achieve the following objectives-
 - i) To encourage staff of construction sites to participate in preventing and controlling mosquito breeding in the site;
 - ii) To eliminate breeding sites for mosquitoes especially containers; and
 - iii) To arouse and maintain the awareness of staff of construction sites on the potential risk of dengue fever transmission.

Target areas

5. The whole construction site should be covered by the programme.

Working schedule

6. As it takes an average of 7 days for eggs of mosquitoes to develop into adult mosquitoes, the inspection cycle should be a 7-day cycle.








Programme coordination

7. A staff of the construction site should be designated as the coordinator for implementation of the programme and liaison with staff of the Food and Environmental Hygiene Department.

Mosquito control measures

8. Potential breeding places for mosquitoes commonly found in construction sites and the ways of elimination are summarised in the following table:

Breeding place	Cause of problem	Control action	Remark
 Bamboo scaffolding	Stumps at vertical ends of poles collect rain water.	Fill with sand or drill a hole at end of each vertical bamboo pole.	Use metal poles instead of bamboo.
Unused buckets/containers	Hold rain water or water sprayed during construction.	Store in large containers with cover.	Disused containers should be disposed of.
Disused carts for transporting concrete	Hold rain water or water sprayed during construction.	Keep in a covered corner and turn upside down.	
Disused tyres	Rain water and water sprayed during construction process trapped by tyres.	Keep in a covered corner and remove from construction site within one week.	
Disused tyres as anti-bumping device	Rain water and water from car washing trapped by tyres.	 Puncture with big holes.	Preferably, marking on the floor should be used as indicator for parking.
Uneven floors	Collect water sprayed during construction or rain water if the floor is open.	Sweep away the water at least weekly.	

Breeding place	Cause of problem	Control action	Remark
Lift wells and pits	Collect water sprayed during construction or rain water.	Pump off water accumulated at least weekly.	Proper application of biological agents such as larvivorous fishes or chemicals such as 1% SG temephos may also be able to control breeding of mosquitoes.
Water storage containers	Uncovered containers provide breeding sites for mosquitoes.	Cover with lids. 	For large containers which are frequently used or need to be left open, proper application of biological agents such as larvivorous fishes or chemicals such as 1% SG temephos should be able to control breeding of mosquitoes.
Saucers for ornamental potted plants	Excessive watering causes accumulation of water in the saucers.	Drain away water immediately after watering. 	Avoid using saucers for potted plants.
Rubbish especially empty lunch boxes and soft drink cans	Hold rain water or water sprayed during construction.	Keep in disposable plastic bags which should then be tied up at the openings and kept in well-covered refuse bin.	Refuse have to be cleared from construction sites frequently.
Construction materials (including pipes, steel bars, toilet wares and metal boxes etc.)	Hold rain water or water sprayed during construction.	Stack orderly according to their shapes and cover them up so that water would not be trapped by them.	Water may be trapped on cover for construction materials. The water has to be removed weekly.

9. In general larviciding must only be carried out if the breeding sources or potential breeding grounds are inaccessible or could not be eliminated within one week.



Action checklist

10. To enhance the monitoring of the mosquito control work, a checklist on the breeding places for mosquitoes and action taken could be prepared for the programme by making reference to those mentioned in paragraph 8 above.
11. The management of construction site could appoint a pest control company for providing services on mosquito control and prevention in the construction site. Advice on mosquito prevention could be obtained from the Food and Environmental Hygiene Department.