

Common Mosquito Breeding Places:

Factories & Shipyards



Section B Chapter 5 Factories & Shipyards

Section B



Admin Building, Training/Medical Centre & Security/Guard Room

Water Tanks



Floor Under Water Tanks



Causes of mosquito breeding

- Water stagnation on uneven floor due to
 - a) rain accumulation
 - b) overflows
 - c) leakages from pipes



Preventive/remedial measures

- Shield tanks from rain
- Channel overflows away
- Fix leaking pipes
- Apply BTI briquettes periodically

Check For Gaps And Openings At Covers And Ventilation Holes



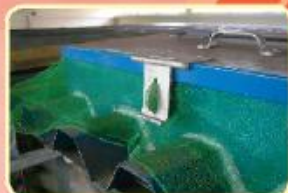
Causes of mosquito breeding

- Inspection covers not properly closed after maintenance work
- Damaged, corroded or missing covers and cover gaskets
- Ventilation holes not covered or screened



Preventive/remedial measures

- Close inspection covers properly after maintenance
- Repair or replace the covers and cover gaskets
- Install rubber gasket for tank covers to eliminate gaps
- Cover all ventilation holes with anti-mosquito screen



Check For Torn Or Detached Mosquito Nettings



Causes of mosquito breeding

- Anti-mosquito netting for overflow outlets is absent, damaged or not properly installed



Preventive/remedial measures

- Cover all overflow outlets with anti-mosquito netting and replace all damaged nettings





Cooling Towers



Causes of mosquito breeding

- Accumulation of water at base of cooling towers



Preventive/remedial measures

- Drain out water regularly and flush cooling towers
- Carry out regular cleaning to prevent blockages in discharge points

Reinforced Concrete Flat Roof Including Scupper Drains



Causes of mosquito breeding

- Water stagnation due to
 - a) uneven floor
 - b) clogged drains
 - c) poor gradient of drains



Preventive/remedial measures

- Re-grade uneven floor
- Carry out regular cleaning to prevent blockages
- Re-grade uneven drains

Roof Gutters



Causes of mosquito breeding

- Water stagnation due to
 - a) warping of roof gutters, impeding water flow
 - b) poor gradient of gutters
 - c) roof gutters clogged with leaves or silt
 - d) Misalignment of rainwater downpipes with elbow joint, resulting in blockages



Preventive/remedial measures

- Remove roof gutters where possible
- Re-grade uneven gutters
- Carry out regular cleaning to prevent blockages
- Apply BTI briquettes periodically



Corridors And Staircase Landings, Including Scupper Drains



Causes of mosquito breeding

- Water stagnation due to
 - a) uneven floor
 - b) clogged drains
 - c) poor gradient of drains



Preventive/remedial measures

- Re-grade uneven floor
- Carry out regular cleaning to prevent blockages
- Re-grade uneven drains

Gully/ Floor Traps

Causes of mosquito breeding

- Water stagnation in gully/ floor traps

Preventive/remedial measures

- Install anti-mosquito valve into traps
- Clear blockages in traps
- Seal up traps that are no longer in use



Flower Pots/ Plates/ Watering Cans/ Plastic Containers/ Domestic Containers



Causes of mosquito breeding

- Water stagnation in flowerpot plates and on hardened soil
- Collection of water in domestic containers and receptacles



Preventive/remedial measures

- Remove flowerpot plates where possible
- Loosen hardened soil regularly
- Empty all water in domestic containers and receptacles
- Store domestic containers and receptacles under shelter, away from rain



Canopies

Causes of mosquito breeding

- Water stagnation due to
a) clogged drainage pipes
b) uneven flooring of canopies

Preventive/remedial measures

- Maintain drainage pipes regularly to prevent blockages
- Re-grade floor of concrete canopies
- Apply BTI briquettes periodically



Air-Conditioner Drip Trays

Causes of mosquito breeding

- Collection of condensate in aircon drip trays

Preventive/remedial measures

- Remove aircon drip trays
- Redirect condensate to bathrooms or toilets



Artificial Ponds/ Fountains

Causes of mosquito breeding

- Water stagnation at corner of ponds or fountains that are not circulating
- Collection of water in depressions of fountain features

Preventive/remedial measures

- Introduce fish that are natural predators of mosquito larvae into ponds
- Eliminate depressions of fountain features to allow water to flow



Discarded Items & Receptacles

Causes of mosquito breeding

- Water stagnation in discarded receptacles

Preventive/remedial measures

- Carry out regular cleaning and disposal of unwanted articles





Workshop / Storage Area

Rooftop Including Gutters



Causes of mosquito breeding

- Water stagnation due to
 - a) uneven surface of concrete rooftop
 - b) poor gradient of gutters
 - c) roof gutters clogged with leaves or silt
 - d) Misalignment of rainwater downpipes with elbow joint, resulting in blockages

Preventive/remedial measures

- Re-grade uneven gutters and concrete rooftop
- Carry out regular cleaning to prevent blockages
- Apply BTI briquettes periodically



Air-Conditioner Drip Trays

For details, refer to page 91:
Admin Building, Training/ Medical Centre &
Security/Guard Room – Air-Conditioner Drip Trays

Equipment And Machineries, Including Canvas Sheets



Causes of mosquito breeding

- Water stagnation in equipment and machinery parts
- Collection of rainwater on undulating surfaces of canvas covers



Preventive/remedial measures

- Apply anti-mosquito oil regularly to parts that may collect water and re-apply after heavy rain
- Avoid using canvas to cover equipment and machineries



Materials And Inventories, Including Canvas Sheets



Causes of mosquito breeding

- Collection of rainwater in materials and inventories
- Collection of rainwater on undulating surfaces of canvas covers

Preventive/remedial measures

- Store materials and inventories under shelter
- Avoid using canvas to cover materials and inventories



Concrete Floor Including Scupper Drains



Causes of mosquito breeding

- Water stagnation due to
 - a) uneven floor
 - b) clogged drains
 - c) poor gradient of drains



Preventive/remedial measures

- Re-grade uneven floor
- Carry out regular cleaning to prevent blockages
- Re-grade uneven drains



Gully/ Floor Traps

For details, refer to page 90:
Admin Building, Training/ Medical Centre &
Security/ Guard Room – Gully/ Floor Traps





Flower Pots/ Plates/ Watering Cans/ Plastic Containers/ Domestic Containers

For details, refer to page 90:
Admin Building, Training/ Medical Centre &
Security/ Guard Room – Flower Pots/ Plates/
Watering Cans/ Plastic Containers/
Domestic Containers

Tyres, Including Discarded Tyres



Causes of mosquito breeding

- Collection of rainwater in inner rim of tyres



Preventive/remedial measures

- Dispose of unwanted tyres
- Store tyres under shelter



Discarded Items & Receptacles

For details, refer to page 91:
Admin Building, Training/ Medical Centre &
Security/ Guard Room – Discarded Items & Receptacles



Apron of Building & General Area



Gutters Including Linkway Gutters

For details, refer to page 89:
Admin Building, Training/ Medical Centre &
Security/ Guard Room – Roof Gutters



Freight Containers

Container And Canvas Roof, Including Secondary Roof



Causes of mosquito breeding

- Water stagnation on and below roofing



Preventive/remedial measures

- Avoid using canvas roof and secondary roofing



Ground Below Containers



Causes of mosquito breeding

- Water stagnation on ground below containers



Preventive/remedial measures

- Apply anti-mosquito oil to ground below containers regularly, and re-apply after heavy rain



Water Storage Tanks, Drums, Containers



Causes of mosquito breeding

- Collection of water in storage tanks, drums and containers, including water stagnation on covers of the items



Preventive/remedial measures

- Cover tanks, drums and containers properly and store them under shelter
- Cover all tank outlets with anti-mosquito netting and replace all damaged nettings



Tool Boxes



Causes of mosquito breeding

- Collection of rainwater in metal and wooden tool boxes



Preventive/remedial measures

- Empty all water in tool boxes
- Store tool boxes under shelter, away from rain



Flower Pots/ Plates/ Watering Cans/ Plastic Containers/ Domestic Containers



For details, refer to page 90:

Admin Building, Training/ Medical Centre & Security/ Guard Room – Flower Pots/ Plates/ Watering Cans/ Plastic Containers/ Domestic Containers

Bulk Waste Containers, Skips & Refuse Bins



Causes of mosquito breeding

- Collection of rainwater in containers, tanks and bins, and on the ground below containers and tanks



Preventive/remedial measures

- Clear containers, tanks and bins regularly
- Apply anti-mosquito oil to the ground below containers and tanks regularly, and re-apply after heavy rain



Open And Closed Perimeter Drains



Causes of mosquito breeding

- Water stagnation in drains due to
 - a) blockages
 - b) poor gradient
- Cleaning cannot be carried out properly in covered drains due to concrete slabs/ metal gratings



Preventive/remedial measures

- Carry out regular cleaning to prevent blockages
- Re-grade uneven drains
- Remove concrete slabs/ metal gratings permanently to facilitate cleaning





Subterranean Pits & Chambers Including Key Holes Or Gaps In Covers



Inspection Chambers And Sump Pits



Causes of mosquito breeding

- Collection of rainwater in chambers due to seepage through keyholes or gaps around covers
- Water stagnation in keyholes of covers



Preventive/remedial measures

- Close covers properly after maintenance
- Seal up keyholes and gaps around covers



Stop-Cock Pits



Causes of mosquito breeding

- Refer to above: Inspection Chambers and Sump Pits



Preventive/remedial measures

- Seal up keyholes and gaps around covers



Lightning Conductor Pits



Causes of mosquito breeding

- Collection of rainwater in chambers due to seepage through keyhole or gaps around cover



Preventive/remedial measures

- Fill up pits with sand and seal keyholes



Valve Chambers/ Water Meter Concrete Compartments



Causes of mosquito breeding

- Collection of rainwater in chambers due to blockages



Preventive/remedial measures

- Carry out regular cleaning to prevent blockages



Canvas Sheets



Causes of mosquito breeding

- Collection of rainwater on undulating surfaces of canvas covers



Preventive/remedial measures

- Avoid using canvas sheets



Abandoned Vehicles/ Wheels/ Tyres



Causes of mosquito breeding

- Collection of rainwater in vehicle parts, and in discarded wheels and tyres



Preventive/remedial measures

- Tow away abandoned vehicles
- Dispose of unwanted wheels, tyres and other vehicle parts





Outdoor Hanging And Standing Bins



Causes of mosquito breeding

- Collection of water at base of bins
- Drainage holes at base of bins are clogged



Preventive/remedial measures

- Provide drainage holes at base of bins
- Carry out regular cleaning to clear blockages

Tree Holes, Bifurcation Between Branches, And Thick Leaf Axils

(Banana Trees, Traveller's Palm And Any Similar Plants That Can Collect Rainwater)



Causes of mosquito breeding

- Collection of rainwater in tree holes, depressions between branches and thick leaf axils



Preventive/remedial measures

- Seal up all tree holes and depressions permanently with ferns or sand
- Avoid planting of vegetation with thick leaf axils



Ground Puddles/ Depressions



Causes of mosquito breeding

- Collection of rain water in ground puddles or depressions



Preventive/remedial measures

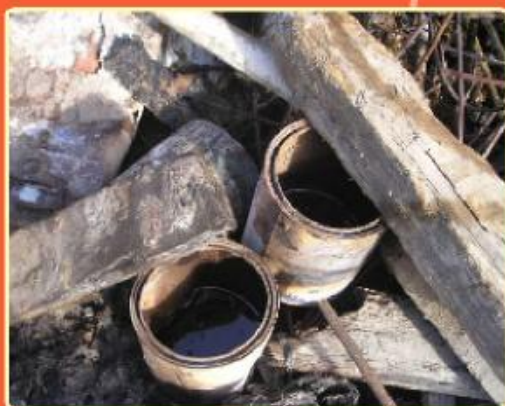
- Back-fill puddles or depressions permanently



Discarded Items, Receptacles Strewn In Bushes And Flower Beds, Fallen Tree Fronds And Leaves

For details, refer to page 91:

Admin Building, Training/ Medical Centre &
Security/ Guard Room – Discarded Item & Receptacles





Toilet & Bathroom



Pails (Including Rims Of Overturned Pails) / Plastic Containers



Causes of mosquito breeding

- Water stagnation in pails and containers, including in rim of overturned pails



Preventive/remedial measures

- Empty all water in pails and containers

Toilet Cisterns & Unused Toilet Bowls



Causes of mosquito breeding

- Stagnation of water in both cisterns and toilet bowls



Preventive/remedial measures

- Drain out all water in unused cisterns
- Cover and seal unused toilet bowls
- Seal off overflow outlets of cisterns



WC Pan Collars



Causes of mosquito breeding

- Water stagnation at gap of WC pan collars



Preventive/remedial measures

- Seal up gap of WC pan collars with cement



Drainholes Of Unused Sinks



Causes of mosquito breeding

- Water stagnation in drainholes of unused sinks



Preventive/remedial measures

- Cover and seal unused sinks



Gully/ Floor Traps

For details, refer to page 90:
Admin Building, Training/ Medical Centre &
Security/ Guard Room – Gully/ Floor Traps





Canteen/ Eating House

Cooking Pots & Pans/ Domestic Containers



Causes of mosquito breeding

- Water stagnation in cooking pots and pans and other domestic containers



Preventive/remedial measures

- Empty all water in containers regularly



Gully/ Floor Traps

For details, refer to page 90:
Admin Building, Training/ Medical Centre &
Security/ Guard Room – Gully/ Floor Traps



Grease Traps



Causes of mosquito breeding

- Water stagnation in grease traps due to blockages



Preventive/remedial measures

- Carry out regular cleaning to prevent blockages

Refrigerator Trays



Causes of mosquito breeding

- Collection of condensed water in refrigerator trays



Preventive/remedial measures

- Empty all water in trays regularly



Drip Trays Beneath Dish Racks



Causes of mosquito breeding

- Collection of water in drip trays beneath dish racks



Preventive/remedial measures

- Empty all water in trays regularly



Flooring Under Sinks (May Be Concealed By Cabinets)



Causes of mosquito breeding

- Water stagnation on flooring below sinks due to leaks from pipes



Preventive/remedial measures

- Fix pipe leakages
- Apply BTI briquettes periodically

Discarded Items & Receptacles

For details, refer to page 91:
Admin Building, Training/ Medical Centre & Security/
Guard Room – Discarded Items & Receptacles

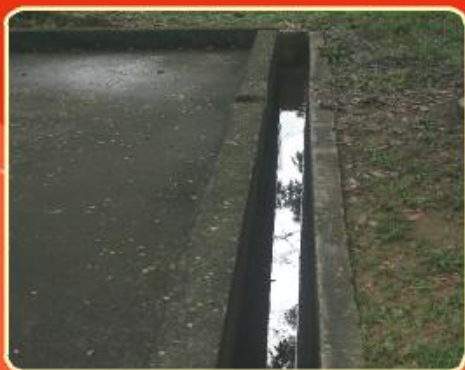




Ground Carpark

Open And Closed Carpark Drains

For details, refer to page 97:
Apron Of Building & General Area –
Open And Closed Perimeter Drains



Carpark Aeration Slabs



Causes of mosquito breeding

- Collection of water in hollows of aeration slabs



Preventive/remedial measures

- Refill hollows with soil and carry out replanting of grass to prevent soil erosion



Covers For Motorcycles



Causes of mosquito breeding

- Collection of rainwater on undulating surfaces of canvas covers



Preventive/remedial measures

- Avoid using canvas to cover motorcycles that are left unattended for long periods



Parked Bicycles



Causes of mosquito breeding

- Collection of rainwater in bicycle parts



Preventive/remedial measures

- Store all bicycles under shelter



Discarded Items & Receptacles

For details, refer to page 91:
Admin Building, Training/ Medical Centre & Security/
Guard Room – Discarded Items & Receptacles



Bin Point/ Bin Room

Rooftop Including Gutters

For details, refer to page 92:
Workshop/ Storage Area - Rooftop Including Gutters



Concrete Floor Including Scupper Drains

For details, refer to page 93:
Workshop/ Storage Area - Concrete Floor
Including Scupper Drains





Gully/ Floor Traps

For details, refer to page 90:
Admin Building, Training/ Medical Centre &
Security/ Guard Room – Gully/ Floor Traps

Stored Bulk Bins



Causes of mosquito breeding

- Water stagnation in stored bulk bins due to accumulation of rain



Preventive/remedial measures

- Shield bins from rain



Bulky Waste Storage Areas



Causes of mosquito breeding

- Collection of rainwater in bulky waste items and on ground below



Preventive/remedial measures

- Dispose of unwanted articles regularly
- Store unwanted articles under shelter

Discarded Items & Receptacles

For details, refer to page 91:
Admin Building, Training/ Medical Centre & Security/
Guard Room – Discarded Items & Receptacles

