

## Advice on Prevention and Control of Japanese Encephalitis Vector

### Japanese Encephalitis

Japanese Encephalitis (JE), a mosquito-borne viral disease in humans and animals, is a major public health problem in the East and Southeast Asia. Mosquitoes may transmit the disease to humans after feeding on infected animals such as domestic pigs and wild birds. Sporadic cases of JE occurred very infrequently in Hong Kong over the last two decades, while five local cases were reported in 2004.

### Vector

The vectors responsible for the transmission of JE are mainly *Culicine mosquitoes* including *Culex tritaeniorhynchus*, *Culex gelidus* and *Culex fuscocephala* :

- In China and many other endemic areas in Asia, *Culex tritaeniorhynchus* is the principal vector. This species usually feeds outdoors from dusk until dawn of the next day. Larvae are mostly found in flooded rice fields, water-lodged abandoned fields, marshes and collections of water around cultivated fields;
- *Culex gelidus* usually breeds on weedy grounds with moderate degree of pollution;
- *Culex fuscocephala* is usually found in water storage pits, irrigation ditches and rice fields.

### Vector prevention and control

#### 1. Source reduction / Elimination of breeding place

- Devices such as water pumps or water gates should be installed in the drainage systems of water-lodged fields such as paddy and water cress fields to ensure continuous water flow and prevent accumulation of stagnant water;
- Inspection programme for mosquito control should be implemented weekly in water-cultivation areas and animal farms;
- Stagnant water in surface drainage channels including those around houses and sheds should be eliminated;
- Water in the containers for feeding animals should be removed after feeding and the containers should be well covered after use; and
- Do not carry out illegal cultivation.

#### 2. Larviciding

- Larvicides such as temephos, *Bacillus sphaericus* and B.t.i. (*Bacillus thuringiensis israelensis*) should be applied according to the instruction label to potential mosquito breeding places that cannot be eliminated within one week; and
- For large water-filled areas such as water ponds, larvivorous fishes or shrimps can be bred as the agents for biological control.

### Personal protection

- Mosquito screens should be installed at windows or louvers (30 – 40 meshes per

square cm);

- Mosquito nets should be used in the bedrooms when necessary;
- Mosquito nets should be used to protect the birds in cages from dusk to midnight;
- Light-coloured long-sleeved clothes and long trousers should be worn during outdoor activities;
- Repellent that contains 10 – 30 % concentration of DEET (*N,N-diethyl-meta-toluamide*) should be applied to the clothes or skin according to label instructions, while performing outdoor activities;
- Mosquito trapping devices using chemicals such as octanol and carbon dioxide as attractants could be installed in outdoor areas;
- Application of odour-producing cosmetics such as perfume or body lotion should be avoided during outdoor activities; and
- Consult doctors on JE vaccination.

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