BORDER HEALTH NEWSLETTER – June 2015

WELCOME!

Hi everybody!
Last month was National Mosquito Control Awareness Week. This is a time to raise awareness about how mosquitoes affect people's daily lives and draw attention to the services offered throughout the United States and worldwide.
NZ BioSecure has visited a local school in Wellington and demonstrated New Zealand's mosquito surveillance programme. The kids were incredible curious and pestered me with questions and tried all the gear. There favourite was to pipette wriggling larvae and the carbon dioxide in form of dry ice.
More information is available on our website www.smsl.co.nz, until the end of July.

SAMPLES

During June 419 samples were collected by staff from 12 DHBs with 70 positive. The total numbers are very low, but still slightly higher than compared to last year in June. We have more adult *Aedes notoscriptus* this June because of some extra adult sampling in Northland for research purpose. Otherwise we had less Culex pervigilans larvae and more *Cx. quinquefasciatus* larvae than last year at the same time and both les than last month.

Species	Adults		Larvae	
New Zealand Mozzies	**June 2015**	**June 2014**	**June 2015**	**June 2014**
Aedes antipodeus (winter mosquito)	1	Nil	Nil	1
Ae. australis (saltwater mosquito)	Nil	Nil	1	Nil
Ae. notoscriptus (striped mosquito)	227	Nil	865	731
Culex astilae	Nil	Nil	Nil	5
Cx pervigilans (vigilant mosquito)	1	5	81	287
Cx. quinquefasciatus (southern house mosquito)	17	35	335	179
Opifex fuscus (rockpool mosquito)	Nil	Nil	26	17
Total	**246**	**40**	**1309**	**1219**

INCURSIONS/INTERCEPTIONS

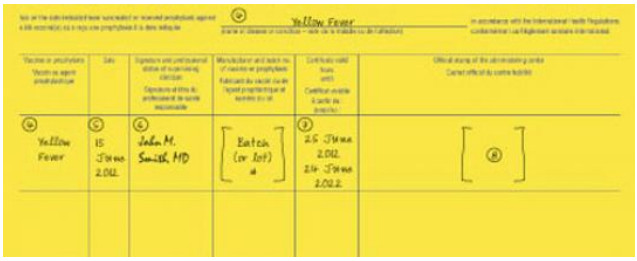
We have had 3 Interceptions in May:

4.6.2015 At a transitional facility at Columbia Ave in Christchurch a mosquito was found in a container with new tyres. The specimen was badly squashed and thus unidentifiable.

27.6.2015 A live gnat or midge was caught while flying out of a container with fresh melons from Australia when MPI de-vanned the container at Fresh Max Transitional Facility Mt. Wellington, Auckland. Unfortunately it too was damaged beyond recognition.

28.6.2015 At the AIAL customs area a sealed box with personal items from Cambodia was opened and a mosquito flew out and was caught by the customs officer. It was identified as a female *Aedes aegypti.*

PICTURE OF THE MONTH



NEWS OF THE MONTH

Officials at Juba Airport sell yellow fever cards without vaccination

Radio Tamazuj

JUBA (3 Jul.)

Officials from South Sudan's Ministry of Health are selling yellow fever cards at Juba International Airport without having given vaccination, sources told Radio Tamazuj.

International regulations require proof of yellow fever vaccination for travel to and from certain countries. People who get vaccinated should be given an International Certificate of Vaccination.

South Sudanese nationals traveling abroad via Juba Internationals Airport have to pay up to 200 SSP to obtain a yellow fever card without getting vaccinated. “They charged me 200 SSP in order to obtain yellow cards without even being vaccinated,” one traveler complained.

South Sudanese who travel to Ethiopia, Kenya and Sudan are required to obtain yellow fever vaccination at least 10 days before their flight, but officials in the health ministry and some National Security personnel are allegedly selling these cards at the airport, according to sources in Juba.

The cards are reportedly scarce at the State Ministry of Health in Centeral Equatoria, which was responsible for issuing the cards at a cost of up to 64 SSP.

“I went to Ministry of Health to get vaccinated against yellow fever and get the card but I was told that they got finished but was referred to some persons at Juba International airport where I got only the card and paid 150 SSP,” said another traveler.

Now, apply online for yellow fever vaccination

Deccan Herald
Ritwika Mitra NEW DELHI, July 04, 2015

Now, those travelling to Africa and South America can now submit their applications for yellow fever vaccination online on the NDMC website. The online initiative will be launched on July 8.

Currently, travellers have to visit the New Delhi Municipal Council Headquarters to submit copies of applications for yellow fever vaccination. Following this, the council allots them an available slot.

“Once travellers plan their trip, they can submit their application online. There will be no need to come to the office physically. The earliest vaccination slot will be shown online while the person is submitting the application. This new process will allow residents from any part of the country to apply for yellow fever vaccination through the NDMC website. There will be 50 vaccination slots available weekly,” said a senior NDMC official.

Travellers can get vaccinated at the International Inoculation Centre on Mandir Marg in the council jurisdiction. The user will be provided with the application number and designated slot once the enrolment is complete.

Applicants can get vaccinated from 2 pm to 4 pm every Wednesday and Friday. Around 5,000 people come to the NDMC centre for vaccination annually. Travellers can also submit their applications to the Municipal Corporation of Delhi. However, the MCD has no plan yet to go online for applications of vaccination.

“There is no procedure in place to invite applications online. Applicants can get vaccinated at the centre located in Civil Lines,” said a senior official of the South Delhi Municipal Corporation.

Though yellow fever is not prevalent in India, it can lead to an epidemic in case the virus is transmitted through humans from the affected countries to India. Yellow fever is a hemorrhagic disease which affects both monkeys and humans.

This is caused by a virus and transmitted to humans through bites of infected mosquitoes. So it is mandatory for Indians travelling to tropical and sub-tropical places in Africa and South America to be vaccinated.

VECTOR-BORNE DISEASES

Recent Local News

RADIO NEW ZEALAND
TE REO IRIRANGI O AOTEAROA

6 June 2015

American Samoa carries out dengue fever tests

American Samoa's Department of Health is carrying out further testing to determine if there's a new type of dengue fever present in the territory following confirmation that two people died from dengue last month.

The Department's epidemiologist Scott Anesi says they are gathering more information about the two deaths to help with their investigation.

Mr Anesi says they are looking at their age groups, villages, correlation of where they worked, shop or went to school to seeing if there are similarities with the dengue virus occurring in the island countries where there have been recent outbreaks.

He says the deaths are unusual because of the sudden deterioration from flu like symptoms.

"So our case definition that we are coming up together is not really matching the sudden onset and deterioration of some of the cases that we are seeing so we are very surprised at how fast that the cases deteriorated and also leading to death and we are definitely interested in the serotying because what we are trying to see is if there's maybe possible co-infections as we are still in the outbreak of the flu or if its a serotype that we haven't seen in the territory before."

Our correspondent says the villages of the two people who died from dengue last month, a 37 year old man and a ten month old baby had not been disclosed.
Meanwhile, three people suspected to have dengue fever were admitted to the LBJ Hospital on Thursday.
LBJ's Infection Prevention nurse Sharmaine Mageo says the three were admitted so they can be closely monitored.

LBJ hospital, American Samoa
Photo: RNZI


Samoa's Ministry of Health Director General and CEO,
Leausa Dr Take Naseri, Photo: Autagavaia Tipi Autagavaia

She also says a 16 year-old girl who had symptoms of the disease passed away last week, and the hospital is sending samples off-island for confirmation of the girl's cause of death.
Our correspondent says results will not be known for at least a week.
And in neighbouring Samoa, a public alert for dengue fever was issued yesterday afternoon by the Minister of Health after confirmation two people died from the disease American Samoa.
Samoa's Health Ministry has called clinicians and health personnel to be updated on the symptoms of and management practices for dengue fever, dengue haemorrhagic and dengue shock syndrome - and mentions the tests to be carried out.
Amongst the measures listed in the alert notice for non-health personnel are the spraying of flights between the two Samoas and other Pacific Island countries, the wearing of long sleeve shirts and pants to avoid mosquito bites - and for breeding sites of the insect to be destroyed.
The Health Ministry says the last dengue outbreak in Samoa occurred in 2008 with the circulating serotype 4.

10 June 2015
Two mosquito types identified in dengue outbreak
An entomologist in American Samoa says the two mosquito types identified as dengue carriers in the territory breed in anything, which contains water. Two people died are confirmed to have died from dengue fever last month.
Mark Schmaedick says the two mosquito types *Aedes aegypti* and *Aedes polynesiensis*.
"We have identified the important water habitats where these two species breed and this information can be really useful to people when they ae trying to eliminate the place where these mosquitoes are breeding and reduce the number of mosquitoes that can can carry dengue."
Dr Schmaedick says the main types of place where you will find these mosquitoes is in anything that holds water, be it pot plants, buckets and tyres. Health authorities are emphasising the clean-up of homes and villages to eliminate breeding sites for mosquitoes.

WHO Pacific syndromic surveillance report
Week 25, ending 21 June, 2015

Chikungunya outbreak is on-going in Cook Islands and Marshall Islands.
Cook Islands have reported a total of 726 cases since October 2014, including 29 new cases in the week ending on June 21 2015.
Marshall Islands has confirmed 38 laboratory confirmed cases and reported a total of 981 cases in the week ending on June 21 since early April 2015.
Dengue: French Polynesia has 27 newly confirmed cases in the week ending 14 June, 2015.
American Samoa has confirmed 13 cases of DENV-3 infections. For further information, please refer to the PacNet posting by Ms. Sharmain Mageo on 18 June 2015.

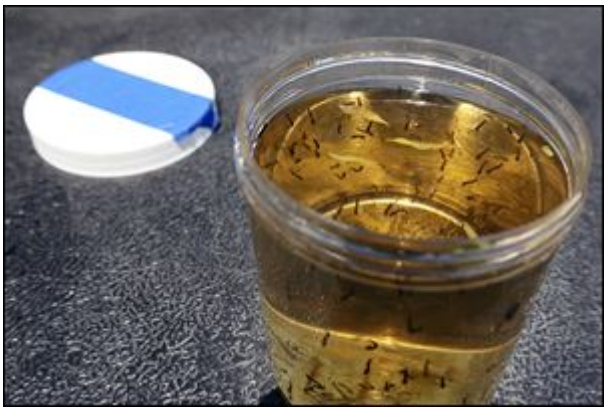
ESR - MONTHLY NOTIFIABLE DISEASE SURVEILLANCE REPORT - MAY 2015

Chikungunya fever: One confirmed case was notified in May 2015 compared to four cases notified during the same month of the previous year. The case was a female from Auckland DHB, who reported overseas travel to the Cook Islands during the incubation period.

USA

Wet June creates ideal conditions for mosquitoes - No evidence of West Nile virus found in stagnant pools of water

BY ALEXANDRA MESTER



Ian Mikolajczak, field supervisor with Toledo Area Sanitary District's mosquito control, sprays to kill mosquito larvae at North Toledo's Cullen Park. In addition to spraying standing water to kill larvae, the sanitary district mists to kill adult mosquitos.
THE BLADE/KATIE RAUSCH
A cup of mosquito larva is used by the Toledo Area Sanitary District's mosquito control crew as a reference and for testing their materials.
THE BLADE/KATIE RAUSCH

If you're spending more time outside fending off mosquitoes than doing anything else, you're not alone.
Frequent rain across the region for the last several weeks has led to an increased population of the pesky insects.
They require stagnant water for their eggs and larvae.
More than 7 inches of rain fell in Toledo last month, making it the fourth wettest June on record.
"We're experiencing a pretty severe summer in terms of mosquito populations," said Paul Bauman, biologist for the Toledo Area Sanitary District.
Not only has the rain created more and bigger pools of standing water, but it has also limited the district's ability to fog areas with high populations of adult mosquitoes.
"It's a double-edged sword," Mr. Bauman said. "But the majority of our efforts are on treating

standing water and trying to get mosquito larvae before they develop into adults."
Cooler overall temperatures lately have been limiting mosquito reproduction to some degree. But if a pool of water remains for a week or so without drying up, it will more than likely become a breeding ground.
"We've been pretty cool this week. That's been slowing them down, but there's a lot of water out there," Mr. Bauman said.
Eric Zgodzinski, director of environmental health for the Toledo-Lucas County Health Department, said there have been no confirmed cases of mosquito-borne disease in Ohio this year.
The breeding pools sampled in the area have tested negative for the West Nile virus.
"We have no disease that's been reported in our area," Mr. Zgodzinski said.
Aside from West Nile, mosquitoes can also transmit a few varieties of encephalitis.
Mr. Bauman said La Crosse encephalitis is generally more of a problem in Ohio than West Nile.
"Ohio's kind of a hot spot for it," he said.
"That's carried by the treehole mosquito that breeds in the holes in trees and in small containers. We can't treat those places with our large-scale operations."
Mr. Zgodzinski said residents should check for places where water collects, such as birdbaths, kiddie pools, children's toys, flower pots, pool covers, and gutters.
Those potential mosquito breeding places should be emptied regularly.
"There are going to be places you just won't be able to get rid of the water," he said, like ditches, ponds, potholes, and low areas.
"You can't be scared to go outside, but you have to be able to take precautions."
Wearing loose-fitting pants and long-sleeve shirts, light-colored clothing, and insect repellent containing DEET will help avoid bites.
Mosquitoes are most active at dawn and dusk, so stay inside at those times if possible.
"It's just about protecting yourself," Mr. Zgodzinski said.
Pets should also be kept on a monthly heartworm preventative as the parasite is spread by mosquitoes.

Aerial Spraying for Mosquitoes in Cicero Swamp Area Scheduled

By TWC News Web Staff Saturday, July 4, 2015
CICERO, N.Y.

Spraying for mosquitoes has been scheduled for the Cicero Swamp area.
The Onondaga County Health Department says a mosquito pool tested positive for Eastern Equine Encephalitis .
Triple E is a rare disease caused by a virus spread by the bite of a mosquito.
The aerial spraying is scheduled for Tuesday night between 7:00 p.m. and 10:00 p.m., weather permitting.
Officials say while spraying helps reduce the mosquito population, residents still need to take precautions.
They suggest wearing bug repellent and limiting outdoor activities between dusk and dawn.

Indiana floodwaters recede, leaving behind mosquito swarms

The Washington Times

By - Associated Press - Sunday, July 5, 2015

MUNSTER, Ind. (AP) - Floodwaters spawned by Indiana's record June rainfall are receding but have left behind swarms of mosquitoes now pestering anyone who ventures outside without protection.

High water closed Homestead Road south of US24, Fort Wayne, Ind., Thursday June 18, 2015. (Samuel Hoffman/The Journal Gazette via AP) "

Purdue University entomologist Tom Turpin said the blood-sucking mosquitoes that hatched in the floodwaters are out in full force aggressively looking for victims to feed on.

He said it only takes about a week after an area floods for adult mosquitoes to form and take to the skies.

"As long as you've got breeding sites, it'll be a continuous cycle," Turpin told The (Munster) Times. Once it dries up, they'll lay eggs again and they'll wait for another flood."

The explosion in mosquito numbers comes after a series of rainfall deluges hit the state during June, sparking flooding that's now receded in most areas. The State Climate Office said Indiana's average June rainfall of 9.03 inches set a record for the month and was the fourth-wettest of any month on record since 1895.

Although mosquitoes are now proliferating, eliminating their breeding grounds by emptying standing water in buckets or clogged gutters can help hold down their numbers.

Ken Severson, a spokesman for the Indiana State Department of Health, said that wearing light-colored clothing and using an insect repellent containing DEET can help keep mosquitoes at bay.

"Wear shoes, socks, long pants, long sleeves if you're going to be out for long periods of time between dusk and dawn," Severson said. "I know it seems strange in the summertime."

The types of mosquitoes that flourish after flooding tend not to carry the West Nile virus, which is generally transmitted by nuisance mosquitoes, Turpin said.

Indiana is among 11 states - including Illinois and Michigan - that have detected West Nile virus in mosquitoes so far this year, according to the Centers for Disease Control and Prevention.

Mosquito-transmitted disease continues to spread worldwide, 9 cases confirmed in Hawaii

By Brent Remadna

Published: June 6, 2015, 6:24 pm Updated: June 8, 2015, 2:04 pm

A relatively new disease has been spreading around the world.

Its name may not be familiar and may sound funny, but the risks and symptoms are something we should know about.

It's called chikungunya, and cases of the painful disease are now showing up here in Hawaii.

The virus has been around for a while, but it has spread throughout South America and even to the Pacific.

This year to date, Hawaii has seen nine confirmed cases.

Chikungunya is mainly transmitted through infected mosquitoes and with many hiking trails here in Hawaii, mosquitoes are pretty much everywhere. What is also concerning is the mosquitoes here in Hawaii are the ones that do transmit chikungunya.

"Just like dengue we're concerned because we have the mosquitoes that essentially can harbor it and transmit it, because the mosquitoes that do that are the same for dengue," said Dr. Sarah Park

with the Department of Health.
That's why parent Sean Paio always makes sure his kids put on repellent when going on hikes.
"I don't like to use the mosquito repellent but we have a natural one we use from Melaleuca, so it deters the mosquitoes from biting them," said Paio
Chikungunya does not often result in death, but the symptoms, like high fever and joint pain, can be severe and disabling. The Department of Health will continue to keep a vigilant eye, especially since it has spread throughout the world.
"In some ways, you can call it an ongoing outbreak, but essentially it's an ongoing spread of chikungunya throughout Latin America and throughout the Pacific islands," said Dr. Park.
The virus does not occur here naturally. In fact all of the cases have been imported, but that is how it can spread. Dr. Park says early detection and isolation are key for someone with symptoms.
"We can get on top of them essentially and say okay, you are staying in the house, away from mosquitoes, and hopefully prevent those mosquitoes from biting you and then having the infection themselves and then infecting other people by biting other people and spreading it," said Dr. Park.
Chikungunya was first identified in Tanzania in 1952. The virus caused small, sporadic outbreaks in Africa and Asia through the 1960s and 1970s.
In June 2004, an epidemic occurred in Kenya that spread during 2005 to La Reunion and to other Indian Ocean islands. This was followed in 2006–2009 by an epidemic in India that produced over 1.5 million cases. Outbreaks have occurred in countries in Africa, Asia, Europe, and the Indian and Pacific Oceans.
In late 2013, chikungunya virus was found for the first time in the Americas in the Caribbean. Then in 2014, chikungunya cases were reported among U.S. travelers returning from affected areas and local transmission was identified in Florida, Puerto Rico, and the U.S. Virgin Islands.

Lindsay Lohan has been having cryotherapy sessions to ease joint pain caused by the chikungunya virus.
Times live 28 June, 2015 15:31
Lindsay Lohan has been having cryotherapy to ease the pain of the chikungunya virus. The 28-year-old actress - who contracted the rare, untreatable disease from a mosquito bite in Bora Bora in December - recently shared pictures of herself and friend Brittany Byrd emerging from a -230°F chamber after receiving treatment, and admits she turned to the therapy to help with the joint pain she has suffered in recent months.
She said: "I've started doing cryotherapy after I got the chikungunya virus. "It's amazing. The virus I had attacks your joints and cryotherapy really helps." And the 'Mean Girls' actress has also found other benefits to the chilly treatments. She said: "When I was doing community service in New York, from 8am to 8.30pm, I was having it once a day.
"It helps you sleep better and affects your functioning too. I like to be active all day, I love to cycle and walk." But with Lindsay now living in London, her access to the treatment is more limited so she is hoping a facility in the UK will open soon.
She told Britain's HELLO! magazine: "I'm trying to persuade Zimmer Icelab to bring cryotherapy to London as there isn't one here yet."

WORLD OF MOSQUITO SCIENCE

New antibody discovery holds promise for dengue vaccine
Medical News Today
By Honor Whiteman Sunday 5 July 2015

Worldwide, there are around 390 million cases of dengue a year - a potentially deadl y mosquito-borne virus. But according to a new study published in the journal Science, researchers have made a discovery that could lead to a vaccine and treatments for the condition. The researchers have discovered an antibody that prevented dengue infection in mouse models, bringing us closer to a vaccine for the virus.

Study co-author Dr. James Crowe Jr., of Vanderbilt University in Nashville, TN, and colleagues have uncovered a human antibody that prevented dengue in mouse models by stopping the virus from binding to target cells. "Scientists in the antibody discovery group of the Vanderbilt Vaccine Center continue to make great strides in developing novel antiviral drugs, such as this human antibody that not only kills dengue virus but also prevents enhanced dengue disease," says Dr. Crowe Jr. Dengue is transmitted by a bite from a mosquito - most commonly the *Aedes aegypti* mosquito - that is infected with one of four dengue virus serotypes, known as DENV1-4.

Symptoms of dengue include fever, severe headache, joint pain, muscle and bone pain, severe pain behind the eyes and mild bleeding - such as nose bleed. A more severe form of the virus is known as dengue hemorrhagic fever (DHF), characterized by prolonged fever, abdominal pain, persistent vomiting, bleeding and breathing problems.

According to the World Health Organization (WHO), more than 22,000 people worldwide die from dengue each year, the majority of whom are children.

At present, there are no vaccines or specific medications for dengue. Symptoms are usually treated with painkillers such as acetaminophen, and fluid replacement therapy may be effective if the virus is identified early enough. Though researchers are working hard to find prevention and treatment strategies for dengue, they face challenges. Dengue's four serotypes consist of different antigens, which means antibodies that are effective against one serotype may not be effective against others.

Dr. Crowe and colleagues note that such antibodies can also "cross-react," leading to infection with a second serotype and raising the risk of DHF.

In previous research, the team created human monoclonal antibodies (HMAbs) that could bind to the antigenic section of the "epitope," or viral envelope, of the DENV2 serotype. The epitope is the part of an antigen that is recognized by immune cells.

For this latest study, the team used cryo-electron microscopy to freeze samples of the HMAbs, allowing them to see how the antibodies bind to the epitopes at an "atomic level."

The researchers identified an HMAb called 2D22 that was able to bind to a variety of epitope proteins of the DENV2 serotype, and in mouse models, the antibody stopped the virus from fusing to its target cell, preventing infection.

What is more, the researchers found the 2D22 antibody also prevented cross-reaction of other antibodies, which reduced the risk of infection with a second dengue serotype.

Based on their findings, the team concludes that "the epitope defined by HMAb 2D22 is a potential target for vaccines and therapeutics."

In December 2014, another study reported by Medical News Today showed promise for a dengue vaccine. Published in Nature Immunology, the study detailed the discovery of an antibody that can neutralize all four dengue serotypes.

The researchers of that study - including investigators from the University of Melbourne in Australia - say their findings may open the door to a universal vaccine for the virus.

Dutch insect repellent innovator Mosquitno targets Hong Kong as dengue fever cases rise

South China Morning Post

By Timmy Sung, Monday, 06 July, 2015

A Dutch company says it has invented an insect repellent using nanotechnology which can keep clothes and homes mosquito-free for up to three months.

Mosquitno has been invited by a government body to begin trading in Hong Kong as the number of cases reported in the city of the deadly mosquito-borne dengue fever rises.

The new repellent does not include the active ingredient used in many insect repellents, DEET, which has question marks surrounding its safety.

Figures from the Department of Health show the number of dengue fever cases reported rose 8 per cent last year, to 112. There were 34 cases in the first five months of this year, 36 per cent more than in the same period last year. Mosquitoes are most active in the summer months.

Erwin Wijnen, director of the company's brand development and global travel retailing, said the new repellent combined nanotechnology with a safer active ingredient - IR3535 - to create a spray that once applied remains effective for up to three months.

The repellent is also available as a fabric softener and a bracelet.

"I think it makes sense to put the repellent in the washing machine to make your clothes insect-repellent. So when you bring your children to school, their uniforms will be insect-repellent and odourless," he said.

The Consumer Council has previously warned that IR3535-based mosquito repellents can break down plastic materials and certain synthetic fibres, but Wijnen said the ingredient combined with nanotechnology is safe and there was no possibility it would damage clothes.

Professor Kevin Leung Wing-por, head of Chinese University's department of chemistry, said he believed vigorous testing had been carried out on IR3535 after combining it with nanotechnology to ensure its safety.

"The company would not take the risk of creating a safety problem," Leung said.

Wijnen said he saw great potential for the product in Hong Kong and Asia, as the number of cases of dengue fever increases.

The council warns that some users may show symptoms of an allergic reaction to the repellent, such as a rash, which is also a relatively common side-effect with DEET-based repellents. In the worst cases, excessive exposure to it could lead to seizures.

Wijnen said consumers would need to spray clothes, bed linen, curtains and other fabrics again after they are washed for the repellent to stay effective on these materials.

InvestHK, the government body tasked with attracting foreign businesses, said it contacted Mosquitno last year about setting up an office in Hong Kong.

NEW ZEALAND BIOSECURE

MOSQUITO DISCUSSION

‘Don’t provide ‘five-star hotel’ stay for Aedes to breed

By Irene C, June 16, 2015

KUCHING: Reducing dengue fever cases boils down to not providing them with ‘five-star hotels’ to breed such as used tyres that are improperly disposed of. According to Assistant Minister of Public Health Datuk Dr Jerip Susil improper waste disposal creates breeding grounds for mosquitoes, especially Aedes mosquitoes which carry the disease. “Indiscriminate dumping of used tyres creates huge stockpiles and clogs drains resulting in the breeding grounds of Aedes mosquitoes.

Yong (second left), Dr Jerip (fifth left), Wee (sixth left) and others hold insecticide spray for the Anti-Dengue Day campaign.

Now that the state government has implemented a used tyre recycling project, we encourage the public to surrender their used tyres and cut down the number of ‘five-star hotels’ for mosquitoes,” Dr Jerip said at the Anti-Dengue Day at ZHA Environmental Sdn Bhd premises yesterday.

June 15 was declared as Asean Dengue Day during the 10th Asean Health Ministers’ Meeting in July 2010.

Both public and private hospital beds were overwhelmed with dengue sufferers in the first quarter of this year, to a point that patients with other medical conditions were deprived of hospital beds, he said.

The Health Ministry reported that 38,517 dengue cases were recorded this year (as of April) an increase of 9,703 cases or 33.7 per cent compared to the same period last year. Deaths caused by dengue rose from 66 to 120, an increase of 81 per cent.

Dr Jerip added that RM847 million was used in the whole country for the treatment of dengue fever in the first four months of this year.

“Dengue also adversely affects our economy. In addition to high cost for treatment, Malaysia also suffers from loss of productivity from the workforce as dengue fever confines patients to bed for seven to 10 days. Even the tourism industry is not spared as tourists stay away from endemic countries due to fear of being infected.”

In Sarawak, the hotspot for dengue cases is Sibu, followed by Bintulu and Betong.

“Dengue cases are however still at the manageable level even though we have a bigger area compared to other states like Selangor and Johor which have the highest number of patients. However, we must be vigilant at all times in taking preventive steps to combat dengue.”

Meanwhile, the state government has appointed and licensed ZHA Environmental Sdn Bhd (ZHA) to collect and recycle used tyres in the state.

The used tyres are collected by ZHA from vehicle repair workshops and also those irresponsibly discarded by the roadside. Since its operation, ZHA has recycled 1.5 million used tyres with it focus on Kuching, Miri, Sibu and Bintulu.

ZHA is the pioneer in Sarawak for the collection of used tyres for recycling. Operating from an 8-ha

site in the Matang Integrated Waste Management Zone, ZHA's Used Tyres Waste Management Facility collects and recycles an estimated 500 metric tonnes of used tyres, which is equivalent to two football fields, every month.

The rubber crumbs produced are sold locally and also exported to countries overseas such as Thailand, Indonesia, Australia and Singapore.

Recycled tyres can be used to make floor mats, brake pads, rubberised playgrounds, running tracks and rubber tiles for holding artificial turf on football fields.

At the event Dr Jerip and other guests were given a tour of the plant by ZHA general manager Bernard Yong. Also present was a member of Kuching North City Commission (DBKU) Dato Wee Hong Seng.

DID YOU KNOW?

Towanda's Mattie Stephenson celebrated yellow fever martyr

Pantagraph.com June 28, 2015 by Bill Kemp

This undated photograph is the only known image of Mattie Stephenson.

In the summer and fall of 1873, yellow fever ravaged the Mississippi River city of Memphis, Tenn. Of the 2,000 or so that died during that horrific outbreak, no one person was more grieved over than Mattie Stephenson, a teenager from the McLean County community of Towanda.

Stephenson had suddenly and unexpectedly left Central Illinois for Memphis in late September or early October of that year without informing her parents — or apparently anyone else — of her intentions. Just why she made the decision to "serve the sick and suffering" of this "sorely stricken city" has been lost to time. We do know that Stephenson, who was 18 or 19 years old at the time, was subsequently hailed across the nation as a "martyr to the cause of humanity." And after her death a mournful monument was erected in Memphis to commemorate her sacrifice.

"She came here a stranger," noted the Memphis Appeal newspaper, "but by her heroic courage in thus giving up her life for the benefit of suffering humanity, has gained immortality, and her deeds will go down to posterity as equaling those of Florence Nightingale."

Before Stephenson left for Memphis she was in the employ of prominent local attorney O.T. Reeves. One account floated later holds that she fled these parts because she was jilted at the altar by a "false fiancé," though contemporary accounts make no mention of such a story. Mattie Stephenson came from a large English family. By 1870, parents Robert and Susan Haworth had eight children. In February of that year the Stephensons left for America, and by June the family had made its way to Towanda, the small (then and now) village north of Normal.

Yellow fever is spread by mosquitoes, though the "vector" (the carrier of the infective agent) was unknown in the 1870s. Those infected would develop flu-like symptoms that, in the advanced stage, included yellowing of the skin and eyes (jaundice); vomiting of blood and stomach acid; bleeding from the mouth, nose and eyes; failure of the liver and kidneys; and delirium. The 1873 epidemic was the second-deadliest of six yellow fever outbreaks that

tore through Memphis between 1828 and 1879. When the 1873 outbreak began in mid-August, an estimated 25,000 residents fled the city. For white folk who stayed in Memphis, the mortality rate was an astounding 70 percent. The African-American mortality rate was much lower, less than 10 percent. Although not entirely understood, it's believed repeated exposure to yellow fever over generations in West Africa afforded blacks a much higher resistance to the disease.

Stephenson worked under the direction of the Howard Association, a network of benevolent doctors and others dating to an 1855 yellow fever epidemic in Norfolk, Va. "She acted the part of an angel of mercy in many a grief-stricken household," noted the Knoxville (Tenn.) Weekly Chronicle, "laboring with her own hands for the relief of the sick, and whispering consolation into the ears of the dying."

She also cared for a pregnant woman who, in the throes of fever, gave birth to a stillborn child before succumbing herself. Despite the "double horror of her patient's condition," it was said, "she alone was brave enough, among all the women there, to face the situation."

As with all too many hastily drafted caregivers (who were needed to replace dead and dying doctors and nurses), Stephenson too was felled by the yellow fever "monster," the end for her coming on Saturday, Oct. 18. She was buried the following day at Elmwood Cemetery, located a short distance southeast of downtown Memphis.

The funeral procession down Main Street featured eight pall bearers and included Paul Cicalla, the city's acting mayor. On the day of her burial the Howard Association proposed the erection of a "suitable monument" in order to commemorate the "sublime and beautiful story of her life."

Gripping accounts of her death were published "in every city of the land," stated The Pantagraph. Though an exaggeration, Stephenson's story received widespread coverage throughout the U.S. "Hers was a martyrdom that the world cannot afford to forget," declared the Chicago Tribune.

In early November 1873, two young women from Memphis, Lou Wilkinson and Jennie Carsman, traveled to Towanda to visit Stephenson's parents.

"They spent the Sabbath with the family of Miss Stephenson, who thanked them again and again for their visit of sympathy and condolence, and listened with tearful eyes to the story of Mattie's death," noted The Pantagraph. "They brought with them a lock of Mattie's hair, and some letters written by her just before her sickness."

The Mattie Stephenson monument at Elmwood Cemetery in Memphis consists of a massive two-tiered base of rusticated limestone, ornamented with ivy vines. On one side of the base is a marble scroll inscribed "The Martyr" and "She Died for Us." Surmounting the limestone is an angel of white marble, the right hand pointing upward indicating heavenly ascent.

The question, of course, is why Mattie Stephenson? Why was she elevated to martyrdom? Perhaps such a shattered people needed heroes and heroines to assign meaning and hope to the meaningless and hopelessness of yellow fever and its unmitigated horrors.

"The only compensation great calamities bring is new evidence of human love and charity," remarked the Chicago Tribune of Oct. 24, 1873. Yet such sentiments hold precious little sway over cruel, uncaring nature. "One would say that the glorious martyrdom of a single Mattie Stephenson would drive 'him' (meaning yellow fever) off with hanging head," concluded the Tribune. "And yet he goes not."