



MOSQUITO
RESEARCH & CONTROL UNIT



OXITEC

Fast Facts – “Friendly *Aedes aegypti* Programme”

- The “Friendly *Aedes aegypti* Programme” is a public health initiative to combat the *Aedes aegypti* mosquito.
- The programme is being carried out by the Cayman Islands Mosquito Research and Control Unit (MRCU) in collaboration with U.K.-based biotech company Oxitec.
- The *Aedes aegypti* mosquito, which is an invasive species in the Cayman Islands, is the primary vector of viruses including Zika, dengue, chikungunya and yellow fever.
- The “Friendly *Aedes aegypti*” is a genetically modified male mosquito which is effectively sterile. When it mates with a female *Aedes aegypti* mosquito, the offspring die before they can reproduce. Hence, with successive releases, the *Aedes aegypti* population is reduced.
- The “Friendly *Aedes aegypti*” male mosquito cannot bite or transmit diseases to humans.
- The technique is being integrated with conventional mosquito controls used by MRCU.
- *Aedes aegypti* is becoming increasingly resistant to pesticides, which is a major reason why new techniques are necessary.
- Evaluation of the “Friendly *Aedes aegypti*” technique is recommended by the World Health Organization and has been approved for use by the authorities in the Cayman Islands, including the National Conservation Council.
- The West Bay programme was launched at the end of July 2016 in a section of West Bay known to be a hot-spot for the *Aedes aegypti* mosquito.
- “Friendly *Aedes aegypti*” eggs are imported from the U.K. and reared in a laboratory at MRCU before being released from a specially outfitted van in the treatment area in West Bay.

- In June 2017, the National Conservation Council granted permission, subject to conditions for the programme to be extended island-wide in Grand Cayman. The permit was ratified in October 2017.
- Permission was also granted to use the technique in Cayman Brac should the need arise (the number of *Aedes aegypti* is usually below the threshold to transmit disease but can surge from time to time).
- The MRCU is currently in dialogue with Oxitec to continue the West Bay programme while the unit considers potential future expansion of use of the technology.
- The West Bay programme is not a trial of the technique and is, in fact, the pilot operational deployment of the technology in accordance with World Health Organization recommendations. Trials were carried out in East End, Grand Cayman in 2009 and 2010, as well as Brazil and Panama, where results proved that the population of *Aedes aegypti* was reduced by more than 90 per cent.
- The technique developed by Oxitec has also undergone exhaustive safety testing and evaluation by independent teams of scientists and national regulatory bodies around the world.
- In addition to Grand Cayman, the Oxitec “Friendly *Aedes aegypti*” technique is currently being deployed in Brazil. A future project in Colombia has also been announced.
- The technique is environmentally friendly and safe, and affects only the *Aedes aegypti* mosquito. “Friendly *Aedes aegypti*” do not persist in the environment.
- If a “Friendly *Aedes aegypti*” is eaten by another animal, it is digested in the same way as wild *Aedes Aegypti* mosquitoes.
- With the Oxitec technique, males and females are sorted at the pupae stage and the males are released to mate with females in the wild. For a miniscule percentage of females that may be released with the batch, there is no difference to being bitten by a wild female *Aedes aegypti* mosquito.
- As with all mosquitoes, only female *Aedes aegypti* can bite (males do not have the necessary mouth-parts), as they need the proteins in the blood to mature their eggs.

- *Aedes aegypti* mosquitoes bite primarily in the day, with peak times after sunrise and a few hours before sunset.
- *Aedes aegypti* mosquitoes have a very strong preference for biting humans and live around human habitation.
- Male “Friendly *Aedes aegypti*” mosquitoes live, on average, two to three days and fly 150 to 300 feet after release.
- Male *Aedes aegypti* mosquitoes in the wild live, on average, one week and fly 150 to 300 feet.
- Female *Aedes aegypti* mosquitoes in the wild, on average, live for about two weeks and fly 150 to 300 feet.
- The *Aedes aegypti* should not be confused with the swamp mosquito in the Cayman Islands, which is a pest, but does not pose a threat to human health.
- Zika can cause the birth defect microcephaly, the World Health Organization has confirmed, and the virus is also linked to other serious medical conditions such as Guillain-Barré Syndrome (GBS), which can lead to total paralysis and death. Dengue and chikungunya are a serious threat to public health, with young children, the elderly and those with underlying medical conditions most at risk. Dengue and chikungunya can also lead to GBS and other complications.
- For more information visit www.mrcu.ky and www.oxitec.com
- For media inquiries, contact Catherine MacGillivray at catherine.macgillivray@gov.ky or telephone (345) 926-6110.

About MRCU

The Mosquito Research and Control Unit (MRCU) was established in 1965 to suppress mosquito populations to minimise discomfort from mosquito biting, to protect residents and visitors from mosquito-borne disease, and thereby enhance the quality of life and promote the economy of the Cayman Islands. The department has many years’ experience in utilising integrated control to reduce the risk of local transmission of mosquito-borne diseases.

About Oxitec

Oxitec is a pioneer in using genetic engineering to control insect pests that spread disease and damage crops, and was founded in 2002 as a spinout from Oxford University (U.K.). Oxitec is a subsidiary of Intrexon Corporation (NYSE: XON), which engineers biology to help solve some of the world’s biggest problems.

