Our Mosquito Project Takes Flight
Exploring innovative tools to protect our residents

Learn more: keysmosquitoproject.com

FKMCD-Oxitec Public Educational Webinar #11
Roundtable Discussion: Controlling *Aedes aegypti*, the Vector of Dengue, Zika, Heartworm and Other Diseases
23 February 2021
Introductions – Panelists With You Today

Andrea Leal
Executive Director
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Mark Whiteside, M.D., M.P.H.
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Veterinary Specialist & Fellow, Royal Society of Medicine

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Head of Public Affairs
Oxitec
FKMCD-Oxitec Public Educational Webinar Series

FKMCD and Oxitec are hosting a series of public educational webinars to share information with residents of the Florida Keys and provide forums to answer questions.

• Webinars are open to everyone.
• Webinars are recorded and made available for everyone after the event.
• All questions relating to the webinar topic(s) will be answered (some in batches if questions are similar).
• If time runs out, we will accept questions in writing via florida@oxitec.com.
• Questions and answers will be published in writing after the event with external or related online resources/references.

Upcoming:

Community Partnerships: The Role Communities Play in our Pilot Project – coming in March!
FKMCD & Oxitec Public Educational Webinars

Welcome to Webinar #11!

Today’s Agenda:

• Brief Presentation
• Roundtable Discussion
• Your Questions Answered

Documentation, resources, references, and other information are available at keysmosquitoproject.com
Why now, Why the Florida Keys? – Health and the Environment

• Dengue is an ongoing challenge with over 65 confirmed locally-acquired cases in Monroe County in 2020
• The threat of other diseases such as Zika, chikungunya and yellow fever persists
• Insecticide resistance in local mosquitoes
• Need more tools in our toolbox

• Environmental impact is a major consideration, including for human health
• Using species-specific tools minimizes harmful impacts
• Nine national and state agencies concluded Oxitec male mosquitoes pose no risk to human or environmental health

*As of 10/27/2020
The Aedes aegypti Mosquito: an Invasive Species in Florida

Aedes aegypti is not native to the Americas. It was most likely transported from Africa by Portuguese ships sometime in the 16th century, bringing viral diseases with it.
Oxitec’s Aedes aegypti Mosquito Technology (OX5034)

OXITEC’S
AEDES AEGYPTI

- TARGETED SUPPRESSION
- SAFE, NON-TOXIC, NON-ALLERGENIC
- PROVEN EFFECTIVENESS
- MALE-ONLY RELEASES (male mosquitoes do not bite)
- TRACEABLE IN THE FIELD
- SELF-LIMITING IN THE ENVIRONMENT

- No females produced
- Low-tech, egg-based devices enabled
- Easy track-and-trace in the field
- Non-toxic, non-allergenic

2G larva 2G pupa 2G adult
OX5034 Demonstrated Effectiveness & Safety

Results:
✓ Safe – no unintended impacts
✓ Males only – no female release
✓ Fully self-limiting – no persistence
✓ Significant suppression (see graph)
✓ 90% reduction in operations
✓ 94%+ public acceptance

Pilot Project #1 for Mini-Capsule Product – 1,000 Person Area
Indaiatuba, Brazil – 17 Week Treatment Ending March, 2020

- 98% weekly high
- 92% 4-week mean

Results:
- Safe – no unintended impacts
- Males only – no female release
- Fully self-limiting – no persistence
- Significant suppression (see graph)
- 90% reduction in operations
- 94%+ public acceptance

- Faster to Suppression than OX513A
- 90% More Efficient Production & Deployment
Do Oxitec Mosquitoes Bite?

No.

Oxitec mosquitoes do not bite.

Only female mosquitoes bite

There will be no Oxitec female mosquitoes

Oxitec male mosquitoes are safe and non-toxic
Florida Keys Pilot Project Timeline - 2021

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Recent Community Engagement

- Oxitec mosquitoes are safe and self-limiting.
- Unlike male mosquitoes, Oxitec’s male mosquitoes do not bite. Female mosquitoes bite and spread disease.
- The Aedes aegypti mosquito is the known vector of diseases including Dengue and Zika and is becoming more resistant to traditional pesticides.

Please visit keysmosquitoproject.com for additional resources.
Get Involved!

- Request a box
- Request a trap
- Sign up for updates
- Volunteer as a Project Ambassador

JOIN THE PROJECT!
Any and all questions on this evening’s topics are welcome!

*(If we run out of time tonight, email florida@oxitec.com and we will attempt to answer your question if it isn’t included in the growing FAQ or post-event summary we publish online at oxitec.com/florida and keysmosquitoproject.com)*
Mosquitoes, Heartworms & Your Pet
Heartworm Disease is carried by Mosquitoes
Heartworm Disease is carried by Mosquitoes

Female Mosquito

Heartworm-infected Dog

Mature Adult producing microfilariae / 5-7 years

Mature Adult seldom producing microfilariae / 2-3 years

Bites infected dog, ingests larva

Larvae develop to infective stage

Mosquito bites your pet

In the Tissue

Development (Larvae) / 2 months < transmits larva

Development (Larvae) / 2 1/2 months

Prevention Effective

Treatment Required

American Heartworm Society
Holly Springs, NC

© 2020
Heartworm Disease is carried by Mosquitoes
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Heartworm Disease is carried by Mosquitoes

An average of 7 in 10 mosquitoes in a heartworm-positive dog's kennel carry heartworm.

A heartworm-positive dog in the neighborhood substantially increases the risk of infection to healthy dogs.
Heartworm Disease is carried by Mosquitoes

The Mighty Mosquito

**She’s Tough**
Survives and thrives in a variety of climates and environments.

**She’s Mobile**
Lives indoors and outdoors. Willing to relocate.

**She’s Hungry**
Drinks 3x her weight in blood, spreading heartworm larvae as she feeds.

**She’s Sneaky**
Mosquito “season” is impossible to predict. Protect your pets from heartworms year-round.

Heartworms spread when a mosquito carrying larvae bites your unprotected pet.
Possible ?/Expensive to treat!

Easier to PREVENT!