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Court Documents Reveal Oxitec's Genetically Engineered Mosquitoes Could Cause Increased Numbers of Different Disease-Carrying Mosquitoes

WASHINGTON— Genetically engineered (GE) mosquito company Oxitec has admitted a major risk of its technology – reducing one mosquito species may increase the numbers of a second disease-carrying species. The information surfaced today when four environment and food safety groups including International Center for Technology Assessment, GeneWatchUK, Food and Water Watch and Friends of the Earth released court documents from the Cayman Islands. Oxitec, a subsidiary of Intrexon, applied for trial releases of its GE mosquito, which, according to the new information, would be [inefficient and risky](#).

Oxitec previously denied that releasing millions of GE *Aedes aegypti* mosquitoes, with the aim of suppressing wild mosquito numbers, would result in increased numbers of the *Aedes albopictus* species (known as the Asian Tiger mosquito). The *Aedes albopictus* also transmits viral tropical diseases such as dengue and zika, and recently has been shown to be a vector of chikungunya, a devastating and [sometimes lethal viral disease](#). The FDA recently approved trial releases of the GE mosquitoes in Florida.

“These court documents show that Oxitec’s GE mosquito trials are not worth the risk. The State of Florida and its mosquito control boards have in the past effectively controlled disease from multiple mosquito species using much more benign approaches such as vaccines, screens, repellents, larvicides and removing breeding sites like abandoned tires,” said Jaydee Hanson, policy director of the International Center for Technology Assessment.

This new evidence from the Cayman Islands highlights that Oxitec is aware of a major flaw in its single-species, technological approach to eradicating disease-carrying mosquitoes. Oxitec makes clear that the release of the GE Asian Tiger mosquito *Aedes albopictus* might be needed if the release of the GE *Aedes aegypti* results in an increase of the numbers of Asian Tiger mosquitoes. Oxitec’s 2014 application to the Cayman Islands Department of Environment states, “*Should Aedes albopictus begin to occupy the Aedes aegypti niche upon reduction in their numbers, a concurrent operation will begin to reduce the numbers of Aedes albopictus*”.

“It might be a good business model for a company to sell a technology to reduce one mosquito species, so then they can also sell a technology to deal with the species that replaces it,” said Wenonah Hauter, executive director of Food & Water Watch. “But it’s not worth the effort, expense and potential risk for communities in the U.S. to start down this path.”

Aedes albopictus is [a more invasive species](#) than *Aedes aegypti* and can be found in all east coast U.S. states from Maine to Florida, all southern states, most Midwestern states and in the states along the US-Mexico border from Texas west to California.

“Current permits for releases should now be revoked until regulators recognise the downsides of Oxitec’s technology and the need to consider all the impacts on the ecosystem. The consequences of mass releases of GE mosquitoes could be harmful if other disease-carrying mosquito species move in as a result. Risk assessments in Brazil, the Cayman Islands and the USA need to be revised,” said Dr. Helen Wallace, director of GeneWatch UK.

The company has also previously hid information about the mosquito's potential to survive. Company data noted that 15 to 18% of its GE mosquitoes survive when fed on cat food containing industrially farmed chicken, which contains the antibiotic tetracycline. [Environmental groups have warned](#) that this could lead to the survival and spread of large numbers of GE mosquitoes, when they encounter this common antibiotic in the environment e.g. in discarded takeaways or septic tanks.

"Oxitec has misled the public about the risks. These GE mosquitoes may thrive in the wild or may lead to an increase in more aggressive mosquito populations," said Dana Perls, senior food and technology campaigner with Friends of the Earth, U.S. "We should be using the least toxic alternatives that don't have unintended consequences for our environment and health."

Florida Keys residents will have a non-binding vote on whether they support the release of Oxitec's genetically engineered *Aedes aegypti* mosquitoes on November 8, 2016. A separate but related vote will occur in Key Haven, Florida, where Oxitec has received permission from the Food and Drug Administration to release its GE *Aedes aegypti* mosquitoes in the first U.S. trial. Residents of Key Haven have strongly opposed the release of these mosquitoes.

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The International Center for Technology Assessment (ICTA) is a non-profit, bi-partisan organization committed to providing the public with full assessments and analyses of technological impacts on society. Recent history is filled with profound technological changes and scientific discoveries—in such fields as telecommunications, nuclear power and weaponry, computers, pesticides, car and air travel, modern medicine, genetic engineering—that have permanently altered our communities, countries and ecosystems. These innovations demonstrate that technology is among the most powerful, and often destructive, agents of social change in modern times. ICTA was formed to assist the general public and policymakers better understand how technology affects society.

Friends of the Earth fights to create a more healthy and just world. Our current campaigns focus on promoting clean energy and solutions to climate change, ensuring the food we eat and products we use are safe and sustainable, and protecting marine ecosystems and the people who live and work near them.

Food & Water Watch champions healthy food and clean water for all. We stand up to corporations that put profits before people, and advocate for a democracy that improves people's lives and protects our environment.

GeneWatch UK is a not-for-profit group that monitors developments in genetic technologies from a public interest, human rights, environmental protection and animal welfare perspective. GeneWatch believes people should have a voice in whether or how these technologies are used and campaigns for safeguards for people, animals and the environment. We work on all aspects of genetic technologies - from GM crops and foods to genetic testing of humans.