Expansion of Oxitec's Vector Control Solution in Brazil Attacking Source of Zika Virus and Dengue Fever after Positive Program Results

Jan 19, 2016

OXFORD, England and GERMANTOWN, Md., Jan. 19, 2016 /PRNewswire/ -- Intrexon Corporation (NYSE: XON), a leader in synthetic biology, today announced its subsidiary Oxitec and Piracicaba City Hall have expanded the 'Friendly *Aedes aegypti* Project' in Piracicaba, Brazil following strong results for controlling the *Ae. aegypti* mosquito population, the primary vector for dengue, chikungunya and Zika virus outbreaks around the world. In preparation of this growing program and to meet increasing demand for its proprietary vector control solution, Oxitec is initiating a new mosquito production facility in Piracicaba that will have capacity to protect over 300,000 people.

"We are delighted Piracicaba is encouraged by our strong results and expanding the program. Our new facility will support the roll out of our groundbreaking vector-control across the heart of the city and beyond," said Oxitec CEO Hadyn Parry. "As the principal source for the fastest growing vector-borne infection in the world in Dengue Fever, as well as the increasingly challenging Zika virus, controlling the *Aedes aegypti* population provides the best defense against these serious diseases for which there are no cures."

Following approval by Brazil's National Biosafety Committee (CTNBio) for releases throughout the country, Piracicaba's CECAP/Eldorado district became the world's first municipality to partner directly with Oxitec and in April 2015 started releasing its self-limiting mosquitoes whose offspring do not survive. By the end of the calendar year, results had already indicated a reduction in wild mosquito larvae by 82%. Oxitec's efficacy trials across Brazil, Panama and the Cayman Islands all resulted in a greater than 90% suppression of the wild *Ae. aegypti* mosquito population – an unprecedented level of control.

Based on the positive results achieved to date, the 'Friendly *Aedes aegypti* Project' in CECAP/Eldorado district covering 5,000 people has been extended for another year. Additionally Oxitec and Piracicaba have signed a letter of intent to expand the project to an area of 35,000-60,000 residents. This geographic region includes the city's center and was chosen due to the large flow of people commuting between it and surrounding neighborhoods which may contribute to the spread of infestations and infections.

According to Mayor Gabriel Ferrato, "The city of Piracicaba has always sought innovative solutions to serious problems. In the case of *Aedes aegypti*, we looked for the tool that seemed most appropriate to help in the tough battle against this mosquito that transmits dengue, Zika and chikungunya. Based on the results presented today, we decided to extend the project in CECAP/Eldorado district for another year and also signed a record of intent to expand the project to the central area of Piracicaba. This will bring to the city a new Oxitec factory to meet demand for years to come and help protect the public's health with this clean and innovative technology."

Like many invasive insect species, *Ae. aegypti's* territory is expanding as are the diseases it spreads, including dengue, chikungunya and Zika virus, which collectively impact over 100 countries and approximately 400 million people globally each year. Today Brazil has the highest reported incidence of dengue in the Western Hemisphere, and with both chikungunya and Zika virus having entered the country in 2014 and 2015 respectively, the *Ae. aegypti* mosquito has become an increasing health risk. As a result, Brazil's Ministry of Health spent over 1.2 billion reals last year and allocated an additional 500 million reals for states and municipalities in January 2016 to combat the mosquito.

As per the recent New England Journal of Medicine publication titled *"Zika Virus in the Americas — Yet Another Arbovirus Threat"* Brazil is not alone. Authors Anthony S. Fauci, M.D., and David M. Morens, M.D., from the National Institute of Allergy and Infectious Diseases noted, "The explosive pandemic of Zika virus infection occurring throughout South America, Central America, and the Caribbean and potentially threatening the United States is the most recent of four unexpected arrivals of important arthropod-borne viral diseases in the Western Hemisphere over the past 20 years."

Samuel Broder, M.D., SVP and Head of Intrexon's Health Sector commented, "As a vector that transmits a number of serious diseases, the *Aedes aegypti* mosquito poses a major threat to public health and the economic welfare of nations. Brazil has been hard hit by dengue and the situation there

has been aggravated by the recent introduction of Zika virus infections leading to a startling increase in the number of children being born with microcephaly." Dr. Broder continued, "Through the responsible engineering of biology, we demonstrate a new paradigm of species-specific vector control resulting in dramatic reductions of dangerous mosquitoes, without persistence or harm to the ecosystem, representing a major scientific, environmental and clinical advance."

Diseases spread by the *Aedes aegypti* mosquito:

- **Dengue Fever** infects up to 400 million people every year with an estimated 40% of the world's population perpetually at risk.
- **Zika Virus** is rapidly spreading into new countries. In 2015 it emerged in Brazil where it has been linked to a sudden increase in birth defects (microcephaly). The number of children born with microcephaly in Brazil has now risen to more than 3500.
- **Chikungunya** swept into Central America and the Caribbean in 2013 with an epidemic spiking to over a million cases within only a year.
- **Yellow Fever** remains a major health threat. There are an estimated 200,000 cases of yellow fever, causing 30,000 deaths, worldwide each year, with 90% occurring in Africa.

About Oxitec

Oxitec is the only GM insect company in the world and a pioneer in using genetic engineering to control insect pests that spread disease and damage crops. Oxitec was founded in 2002 as a spinout from Oxford University (UK), and is now a subsidiary of Intrexon Corporation (NYSE: XON), which engineers biology to help solve some of the world's biggest problems. Oxitec's self-limiting insect control targets only the one species of pest in a way that is non-toxic and pesticide-free, providing vector control that is both effective and environmentally friendly. Follow us on Twitter at @Oxitec.

About Intrexon Corporation

Intrexon Corporation (NYSE: XON) is Powering the Bioindustrial Revolution with Better DNA ™ to create biologically-based products that improve the quality of life and the health of the planet. The Company's integrated technology suite provides its partners across diverse markets with industrial-scale design and development of complex biological systems delivering unprecedented control, quality, function, and performance of living cells. We call our synthetic biology approach Better DNA®, and we invite you to discover more at www.dna.com or follow us on Twitter at @Intrexon.

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