Oxitec to Develop 2nd Friendly™ Mosquito Strain Designed to Combat Malaria-Spreading Mosquitoes

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Expanded collaboration with the Bill & Melinda Gates Foundation will leverage Oxitec's Friendly™ biological engineering platform to develop a self-limiting Anopheles stephensi strain to help combat malaria in India, Middle East and the Horn of Africa

Oxitec's 2 nd generation technology is designed to primarily reduce pest populations and as a secondary benefit may help reverse insecticide resistance in pest insects, unlocking additional value from traditional pesticides that are losing effectiveness

Oxford, UK, October 18 2018 – Oxitec Ltd. ("Oxitec"), UK-based biotechnology company and wholly owned subsidiary of Intrexon Corporation (NASDAQ: XON), today announced that it is expanding its collaboration with the Bill & Melinda Gates Foundation ("Gates Foundation") to develop a self-limiting mosquito strain to combat the *Anopheles stephensi* mosquito that transmits malaria in South Asia, the Middle East and the Horn of Africa using its 2nd generation Friendly™ Mosquito technology. Oxitec and the Gates Foundation entered into a partnership earlier this year to develop a Friendly™ strain that is intended to suppress populations of the malaria-transmitting *Anopheles albimanus* vector in parts of the Western Hemisphere.

Oxitec has developed a powerful biological engineering platform that can be used to develop a range of self-limiting insects, including Oxitec's Friendly™ Mosquitoes that have been tested and deployed around the world to suppress the disease-transmitting *Aedes aegypti* mosquito. Oxitec's Friendly™ insects are designed to significantly reduce the population of a targeted pest species in a way that is safe for humans and the environment.

The new Friendly™ Anopheles strains will both incorporate Oxitec's 2nd generation technology, which utilizes a single self-limiting gene to kill disease-transmitting female pest mosquitoes in the wild. Upon release into the wild, Friendly™ Mosquitoes mate with wild females, allowing only male offspring – also containing a self-limiting gene – to survive to adulthood while all female offspring die before adulthood. This has a direct suppression effect on the targeted mosquito population. As the technology continues to work, the surviving non-biting males subsequently seek out and mate with wild females and pass along the self-limiting trait, each generation of males decreasing by half, until the Friendly™ Mosquitoes no longer persist in the environment. This 2nd generation technology, which is currently being deployed in Indaiatuba Brazil, builds upon Oxitec's 1 st generation of mosquitoes that have been released and successfully evaluated for effectiveness in multiple countries worldwide.

"This expanded collaboration with the Gates Foundation will help develop yet another potentially powerful vector control tool in the global fight against malaria. This additional program will allow for the simultaneous development of two self-limiting mosquito strains targeted at two critical malaria vectors," said Grey Frandsen, CEO of Oxitec. "By developing these mosquito strains together, we will generate economies of scale, thereby accelerating how quickly we can advance these two new Friendly™ Mosquito strains to the field where they can have a real impact."

In addition to pest population suppression, Oxitec's 2 nd generation Friendly™ technology introduces a new secondary benefit not seen in any other technology – the potential ability to reverse insecticide resistance in wild-type insect populations that have become resistant to traditional pesticides. Oxitec's technology introduces susceptible genes into the environment via the surviving male offspring, thereby diluting existing resistance in established wild pest populations.

Anopheles stephensi and *Anopheles albimanus* are malaria vectors that represent a threat to billions of people globally, including in India. Current tools and treatments are insufficient to achieve malaria suppression in many countries, and malaria vectors and parasites have begun to develop resistance to insecticides, which is likely to only intensify in the future.

"Traditional approaches to combating malaria are not working. New approaches are needed, which is why we are developing new technologies that can be used as stand-alone solutions and as part of integrated pest management programs in tandem with traditional control methods," said Simon Warner, Chief Science Officer at Oxitec. "In particular, we are very excited about the potential impact our 2 nd generation insects will have on the growing threat of insecticide resistance, as our technology can re-introduce susceptibility amongst populations that have developed resistance to pesticides. This is a big advancement and a unique benefit of Oxitec's 2 nd generation technology that we and our collaborators have already shown works in agricultural pests. We are excited to apply the same principle again," said Warner.

More on how male-selecting Friendly™ Mosquitoes work

Oxitec has been working in mosquito control for over a decade and pioneered the use of a biological method to suppress wild populations of dangerous mosquito species through the release of male Friendly™ Mosquitoes, which do not bite and do not transmit diseases. When released, Friendly™ males search for wild females to mate and their offspring inherit a self-limiting gene that causes either all progeny or just the female progeny to die before reaching adulthood, based on whether the mosquito contains 1st generation or 2nd generation technology, respectively. Friendly™ Mosquitoes offspring also inherit a fluorescent marker that allows tracking and monitoring at a level never before achieved, making the assessment of effectiveness more accurate throughout the whole Friendly™ Mosquitoes deployment program. Unlike other approaches, Friendly™ Mosquitoes do not persist in the environment or leave any ecological footprint.

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 (UK). Oxitec is a subsidiary of Intrexon Corporation (NASDAQ: XON), which engineers biology to help solve some of the

world's biggest problems. Follow us on Twitter at @Oxitec, on Facebook, and LinkedIn.

About Intrexon Corporation

Intrexon Corporation (NASDAQ: 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, on Facebook, and LinkedIn.

Safe Harbor Statement

Some of the statements made in this press release are forward-looking statements. These forward-looking statements are based upon our current expectations and projections about future events and generally relate to our plans, objectives and expectations for the development of our business. Although management believes that the plans and objectives reflected in or suggested by these forward-looking statements are reasonable, all forward-looking statements involve risks and uncertainties and actual future results may be materially different from the plans, objectives and expectations expressed in this press release.

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