Oxitec Advances Self-Limiting Fall Armyworm Control Solution to Next Phase of Development

Apr 09, 2019

New collaboration agreement will advance scale-up and early field trials of Oxitec's self-limiting fall armyworm

Solution designed to combat growing threat of crop-destroying fall armyworm and help protect sustainability of existing insecticide and biotech tools globally

OXFORD, England, April 9, 2019 /PRNewswire/ -- Oxitec Ltd., a wholly-owned subsidiary of Intrexon (NASDAQ: XON), today announced it has entered into a second agreement with a collaborator to advance the next phase of development of its self-limiting fall armyworm control solution. This announcement comes after the successful conclusion of an initial three-year research and development collaboration that funded the early development of the self-limiting fall armyworm strain. Under the new agreement, the collaboration will focus on scale-up of the technology and the launch of initial field trials in Brazil.

Fall armyworm poses a growing threat to tens of millions of acres of crops in Latin America alone, and a challenge to agricultural productivity throughout the Americas and more recently in Africa and Asia, of a range of food crops including corn, sorghum, rice, cotton, and sugarcane. The damage caused by fall armyworm requires new solutions to address the problem of resistance to traditional crop protection products.

As with Oxitec's 2nd generation Friendly™ Mosquitoes, their self-limiting fall armyworm is designed to mate with wild females and pass on male-selecting genes, causing female offspring to die, thereby reducing the pest population. The self-limiting males will continue to emerge and pass on the self-limiting gene for a limited number of subsequent generations until the gene disappears from the environment. In addition to reducing the target pest abundance, Oxitec's self-limiting fall armyworm may also increase susceptibility to insecticides in the remaining fall armyworm populations, complementing existing tools available to growers, including biotech crops.

"Given the rising challenge of controlling this increasingly resilient and damaging agricultural pest, Oxitec's self-limiting fall armyworm could be a critical addition to current crop pest control options," said Kelly Matzen, Head of Research & Development at Oxitec. "In Brazil especially, fall armyworm has developed resistance to traditional crop-protection products, as well as biotech traits protecting corn. Our new generation of self-limiting insects could change the paradigm of how damaging pests are controlled using an integrated approach."

"Studies with a similar increasingly insecticide-resistant pest – the diamondback moth – at Cornell University, together with published mathematical modelling, show that releases of Oxitec's self-limiting insects have the potential to delay, or even reverse, the spread of resistance to insecticides or crop biotech traits in populations of pest insects," stated Neil Morrison, PhD, Head of Oxitec's fall armyworm project. "We anticipate that our self-limiting fall armyworm will provide growers with more than just another effective management option. This technology has the potential to protect the higher yields that biotech crops can deliver, while making existing solutions more effective and long-lasting. It's a win-win."

As the self-limiting fall armyworm progresses through these next stages of development, Oxitec will also pursue regulatory approval for field studies in Brazil to assess the field performance of the self-limiting fall armyworm in the environment. This process will include collecting data to inform the best mechanism and frequency for delivery to farmers' fields to protect their crops once it is approved and available for commercial use.

"With the massive impact that fall armyworm is having on agricultural productivity globally, our technology has the potential to provide benefits to growers, communities, agricultural industry stakeholders, governments and consumers alike," added Grey Frandsen, Chief Executive Officer of Oxitec. "This next stage of our collaboration is focused on advancing the technology through a set of important milestones in preparation for deploying it as an important new tool in an integrated approach to combating a devastating pest."

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 the University of Oxford (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.

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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