



Oxitec's Friendly™ Platform for Proven and Sustainable Pest Management



Oxitec's Friendly™ Technology – Safe, Biological, Effective

Friendly™ pests carry two introduced genes that deliver unparalleled pest management performance



♥ Self-limiting gene

♥ Marker gene

Non-toxic and safe

Harmless to predators and other species

Traceable in the field

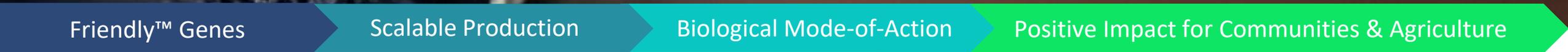
Marker detectable with special filters

Male-only releases

Insects do not harm people or crops

Self-limiting in environment

Gene cannot persist beyond a few generations



Friendly™ Genes

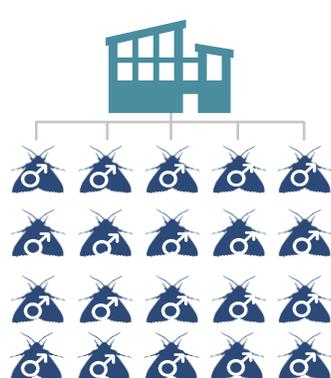


Insertion of two Friendly™ genes

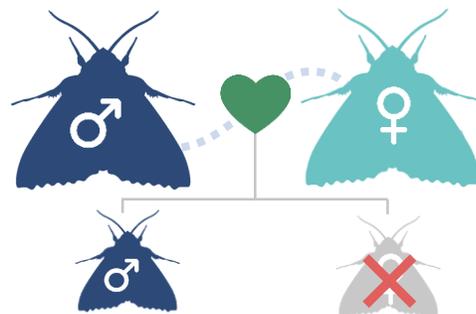
♥ SELF-LIMITING GENE

♥ MARKER GENE

Scalable Production

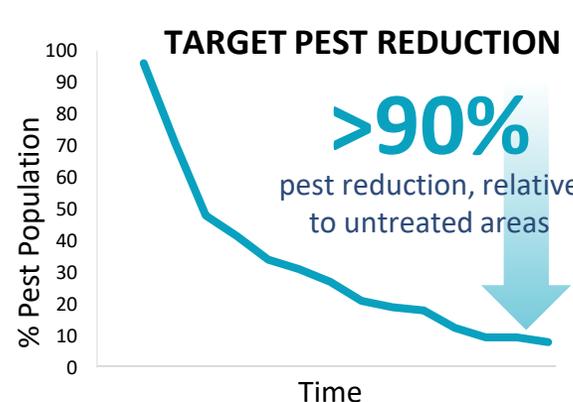


Biological Mode-of-Action



Female offspring do not survive

Positive Impact for Communities & Agriculture





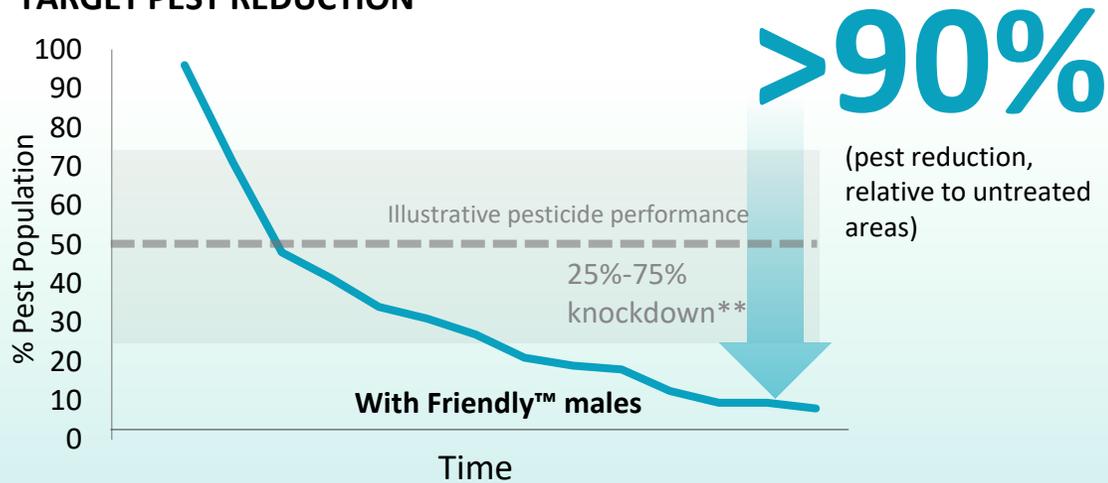
Powerful Dual Performance Benefits of Friendly™ Technology

Friendly™ products deliver two modes of action – rapid suppression of target pest populations, and/or introgression of insecticide susceptibility alleles into target wild pest populations for adding or preserving value in other major crop protection products, like Bt crops.

Highly Effective Suppression Outperforms Pesticides

Dilution of Insecticide Resistance Offers Protection of Bt Crops

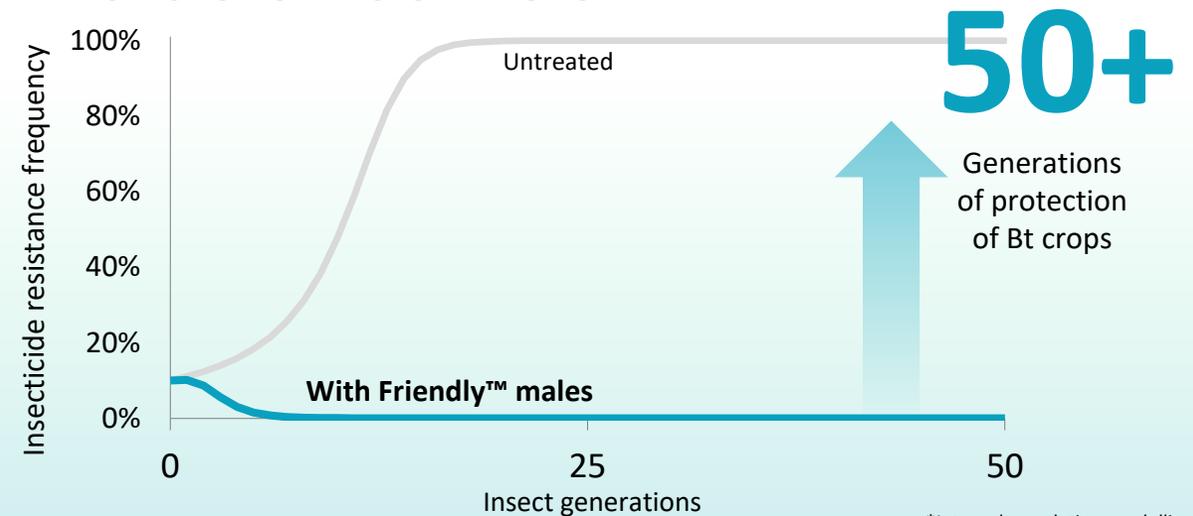
TARGET PEST REDUCTION



*Pilot data from Friendly™ Aedes trial in Indaiatuba, Brazil

** FAO figures, Link

PROTECTION OF BT CROP VALUE OVER TIME



Performance Scientifically Proven

- 100+ peer-reviewed publications
- Globally respected leader in arthropod biotechnology

Demonstrated Real-World Effectiveness

- Best-in-class vector suppression in city-wide and farm-scale deployments
- Repeated success in field pilot demonstrations in multiple countries

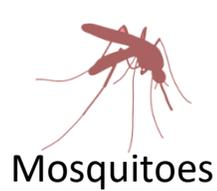
Multiple Biosafety Approvals

- Deployments and pilot demonstrations conducted under approvals in the Americas, Africa, Europe, Asia and Australia



Friendly™ Technology Can Be Applied to Diverse Pests and End-Markets

Applicable to a diverse range of important pests with a set of key traits



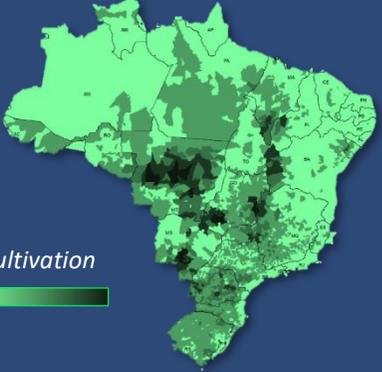
- Reproduces by mating
- Amenable to artificial production
- Life cycle a few months or less

Set to deliver value to multiple markets

HEALTH	AGRICULTURE		LIVESTOCK
	BROADACRE	HORTICULTURE	
 Malaria	 Corn	 Fruits	 Cattle
 Dengue, Zika, Yellow Fever, Chikungunya	 Soybeans	 Vegetables	 Poultry
 Nuisance Biters	 Cotton  Sugarcane	 Tree nuts	 Pigs

Oxitec's Friendly™ Technology: Pipeline of Current Programs



	Pest	The Pest Threat	Partner (Current & Historical)	
PUBLIC HEALTH	<i>Aedes aegypti</i>	Dengue, Zika	Wellcome	<p>LAUNCHED IN BRAZIL IN 2021</p> <p>Initial launch in Brazil</p> <p>Global: U.S. regulatory pilots currently under way; potential for global impact against this disease vector</p>  <p>Dengue Incidence</p>
	<i>Aedes albopictus</i>	Dengue, Zika		
	<i>Anopheles stephensi</i>	Malaria	Gates	
ANIMAL HEALTH	Asian Blue Tick	Cattle	Gates	
AGRICULTURE	Fall Armyworm	80+ Crops	Bayer	<p>UNDERGOING SCALE-UP PILOTS</p> <p>Fully deregulated in Brazil</p> <p>Targeting millions of corn acres</p> <p>Global: Planning for expansion to other market geographies and crops</p>  <p>Corn cultivation</p>
	Soybean Looper	Soybean	Bayer	
	Medfly	Citrus / Pome		
	Diamondback Moth	Brassica, Crops	Cornell	
	Pink Bollworm	Cotton	USDA	



Cattle Tick Program



Oxitec's Proposed Solution to the World's Most Damaging Livestock Tick



Asian blue tick (*Rhipicephalus (Boophilus) microplus*)

1. Disease transmission
2. Farmer losses
3. Acaricide resistance
4. Invasiveness

Disease

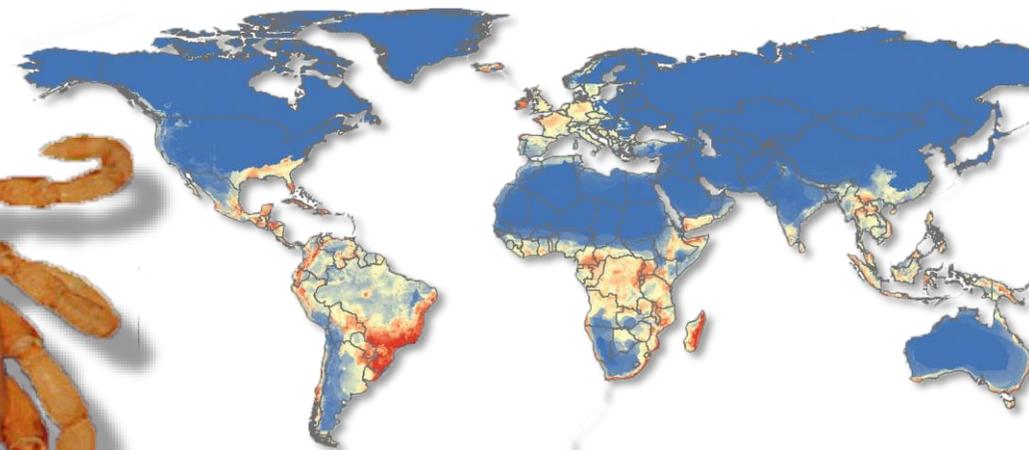
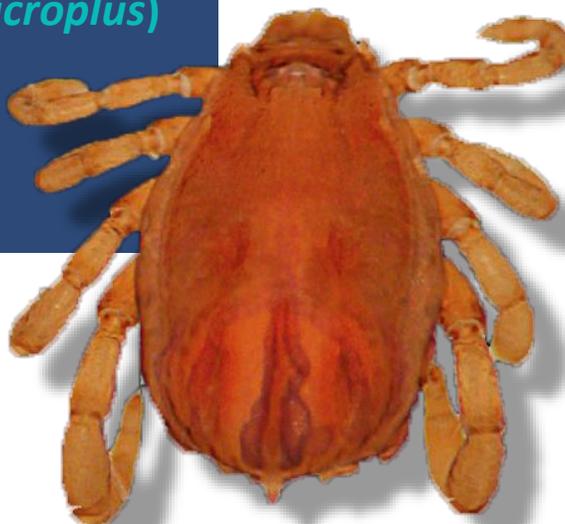
- Transmits pathogens of bovine babesiosis and anaplasmosis, which cause emaciation and death in cattle.

Farmer losses

- Nearly US\$1 billion in dairy yield losses globally.
- In Brazil alone estimated >US\$3 billion annual losses.

Resistance

- Increasing resistance to acaricides used in cattle dips.
- Acaricide resistance makes it difficult to control and threatens re-invasion.



RHIPICEPHALUS MICROPLUS IS WIDELY DISTRIBUTED AND CAPABLE OF SPREADING FURTHER

Anticipated Oxitec Cattle Tick Future Benefits:

- ✓ Reduce pest populations, to enable preventative tick management
- ✓ Reduce reliance on existing tools, for greater sustainability
- ✓ Provide safe, non-toxic and targeted tick management without harmful side-effects
- ✓ Reduces resistance in pest population for potentially synergistic use with acaricides



The Oxitec *R. microplus* Feasibility Project – Scope and Objectives

DEVELOPING THE TOOLS



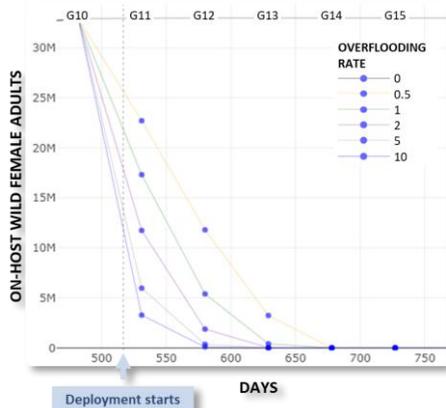
- ✓ DNA delivery methods validated
- ✓ Tissue-biased genetic components to implement the self-limiting system identified and undergoing validation

PROVING THE PRINCIPLE

- ✓ Parasitic phase of male adult ticks and mating behaviour characterized
- ✓ Whole-animal POC study ongoing



VALIDATING FUTURE IMPACT AND IMPLEMENTATION



- ✓ Modelling ongoing to simulate future deployment scenarios of applications of the self-limiting *R. microplus*

TRANSITION TO FULL DEVELOPMENT

- ✓ Cattle management practices characterized in relevant geographies, to inform Target Product Profile
- ✓ Future beneficiary groups in relevant geographies identified



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Thank you

