

# Oxitec

## Who We Are

Oxitec is a US-owned biotechnology company with headquarters and R&D facilities in the United Kingdom. We are an impact-driven company comprised of passionate people who share a mission to improve lives and livelihoods.

Oxitec is strongly committed to transparency, quality, and safety. Oxitec has made available on its [website](#) a large selection of the 100+ scientific studies and peer-reviewed articles.

## Friendly™ Technology

Oxitec's Friendly™ technology insects contain a self-limiting gene. This method of insect control is environmentally-sustainable and safe to both ecosystems and the humans that inhabit them. When this gene is passed on to their offspring, offspring do not survive to adulthood, resulting in a reduction in the pest insect population.

This method can be applied to all kinds of insect pests, from the mosquitoes that transmit diseases such as dengue and Zika, to moth caterpillars that destroy maize fields.

The self-limiting gene prevents offspring of our released male insects from surviving to adulthood, and a fluorescent marker gene produces a protein throughout the body of the insects, which glows when exposed to a specific color of light. This helps Oxitec to track its insects in the wild.

## Safe and Environmentally Sustainable

Oxitec technology utilizes safe, species-specific biological control tools that have minimal impact on the local population and environment.

Oxitec technology has no harmful effects on the ecosystems in which it operates, including other insect species that are needed to preserve biomes such as bees and butterflies.

Oxitec technology reduces the need for traditional insecticides and pesticides and slows resistance development to insecticides and biotechnology enhanced crops.

## Public Health





Humankind is losing the global war against mosquitoes that transmit diseases. Current vector control technologies are failing and climate change is expanding the reach of disease-transmitting mosquitoes.

## By The Numbers

- **3.9 billion** people around the world live under the threat of dengue
- Dengue costs the world **\$8.9+ billion** every year
- There are **200+** million malaria cases annually

Oxitec is pioneering innovative biological insect control technology to combat mosquitoes that transmit diseases. To date, Oxitec has successfully released over 1 billion mosquitoes.

By developing safe, highly effective, and sustainable biological solutions to control disease-transmitting insects, Oxitec can improve public health outcomes globally.

Current Friendly™ Mosquito Programs	Market
 <i>Aedes aegypti</i>	Dengue, Zika, chikungunya; current tools are failing; Brazil >\$1 bn in dengue costs alone
 <i>Aedes albopictus</i>	Dengue, Zika, chikungunya; current tools are failing
 <i>Anopheles stephensi</i>	Malaria; invasive, current tools are failing
 <i>Anopheles albimanus</i>	Malaria; current tools are failing

## Malaria

In partnership with the Bill and Melinda Gates Foundation, Oxitec is developing Friendly™ *Anopheles albimanus* and *Anopheles stephensi* mosquitoes – two crucial malaria vectors. These vectors will help stop the distribution of malaria outbreaks in Africa, the Middle East, and Indian subcontinent regions.

### Case Study: Aedes Aegypti

After decades of effort, there is still no cure or specific treatment for many diseases transmitted by the *Aedes aegypti* mosquito, and public health agencies are trying to stop these devastating diseases at their common source: by controlling the *Aedes aegypti* itself. Oxitec is currently employing technology to control *Aedes aegypti* populations in Brazil and soon, the Florida Keys.

## Food Sustainability

The insect threat to global food security is rising. Insects are out-pacing control efforts at exactly the time agricultural productivity must increase to feed 2 billion more people by 2050. Current pest control tools are failing in the face of resistant pests. Climate change is expanding the range of pests that attack crops and contributing to the collapse of crucial biodiversity that controls these harmful pests.

### By the Numbers

- **\$470 billion** in agricultural productivity is lost due to insect pests
- **10-16%** of global agricultural production is lost to pests annually
- **\$12+ billion** is spent annually on insect resistant biotech crops
- **\$16+ billion** is spent annually on insecticides

Oxitec is working to develop solutions to control crop-destroying insects, including the fall armyworm, the diamondback moth, and the Mediterranean fruit fly.







Oxitec’s technology is friendly to the environment, targeting only the target insect pest and allowing other insects, like bees and butterflies, to survive unharmed. Almost 20 years following the founding of Oxitec, the company remains the leader in developing insect solutions that are self-limiting, safe, effective, and capable of meeting the needs of a changing planet.

Friendly™ technology provides farmers with the ability to combat damaging insect pests in a way that is compatible with other tools, supporting sustainability and, potentially, helping to reduce or reverse insect resistance to other crop protection tools.

### Case Study: Fall Armyworm

The fall armyworm is a destructive pest that is devastating crop production across the world. Powered by Oxitec’s Friendly™ technology, the fall armyworm being developed by Oxitec, in collaboration with Bayer AG, will help combat this pest and improve agricultural outcomes for farmers worldwide.

## Current Friendly™ Agricultural Programs Market

	Fall Armyworm	80+ crops; resistance emerging; one of the most significant insect pests globally
	Soybean Looper	Soybean; over-reliance on traditional management tools; growing threat globally
	Medfly	Citrus/pome/stone fruit markets
	Diamondback Moth	Brassica crops; resistant to most insecticides
	Pink Bollworm	Cotton; resistant to some biotech cotton
	Drosophila suzukii	Soft fruits; highly invasive and difficult to control