

New collection of articles explores the science, application, and regulation of GM insects

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The current issue of *PLoS Neglected Tropical Diseases* presents a new collection of articles on the use of genetically modified (GM) insects for controlling some of the most widespread infectious diseases. Articles from across the PLoS journals describe the technological advances these tools represent, the regulatory framework, and the societal dialogue that is necessary for their wide-scale application for disease control.

Diseases transmitted by insects form a huge burden on human and [animal populations](#). [Insect control](#) has historically been one of many strategies for control of diseases such as dengue, malaria, and [sleeping sickness](#). The debate on whether GM insects could be used for disease control began as soon as transgenic insects were first produced in the 1980's. Since then several experimental releases of GM insects have taken place. These trials show promise for limiting the spread of many vector-borne diseases (most notably [Dengue fever](#)). Articles in this collection showcase different aspects of this new technology including development, environmental impact, and regulation. Public discussion of the science and application of GM insects is necessary as new developments bring potential wide releases closer to a reality.

In an Editorial, Drs. Michael J Lehane (Liverpool School of Tropical Medicine) and Serap Aksoy (Yale School of Public Health) state that GM insects "may provide great promise for new means of controlling diseases with a devastating impact on people's lives. If so, then [public](#)

[acceptance](#) is likely to be a key issue in their implementation." With many countries considering open field trials of GM insects, a Viewpoint by Guy Reeves et al. examines the regulation process of the first 3 countries that have had field trials of GM insects. Commentary by John Mumford discusses issues in risk assessment and highlights the need for both national and international regulations due to factors regarding each country's individual environmental risk to GM insects. From an industry perspective, Luke Alphey and Camilla Beech argue that "the agencies tasked to regulate GM insects have appropriately taken a cautious, thorough approach that allows progress towards realisation of the substantial benefits GM insect technology could potentially provide, while rigorously protecting the public and environment."

The articles in this collection highlight many different points of view surrounding the research into GM insects. As the recent history of GM insect development demonstrates, public discussion is necessary as scientists continue to research GM insect technologies to control some of the world's most devastating diseases.

More information: www.plosntds.org/

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