

Genetically engineered mosquitoes out of control

GE insects are spreading in Brazil

11 September 2019 / According to a new scientific publication, genetically engineered mosquitoes produced by Oxitec (Intrexon) have escaped human control after trials in Brazil. They are now spreading in the environment. The yellow fever mosquitos (*Aedes aegypti*) are genetically engineered to make it impossible for their offspring to survive. After release they were supposed to mate with female mosquitos of the species which are transmitting infectious diseases, such as Dengue fever, to diminish the natural populations. However, the now published research shows that many offspring of the genetically engineered mosquitos actually survived and are spreading and propagating further. According to the scientists, between 10-60 percent of the mosquitoes in the region concerned are inheriting parts of the genome of the mosquitoes released in the trials. These findings are also confirmed in neighboring regions where no such trials were conducted.

The long-term consequences for the transmission of diseases, the number of insects and the interactions with the environment cannot be predicted. The mosquitoes used for the genetic manipulation are originally from Cuba and Mexico. These insects used in the laboratory have now mixed with the Brazilian insects to become a robust population which can persist in the environment over a longer period of time. They might replace the original insects on the long term and even enhance the problems associated with the mosquitoes.

“The Oxitec trials have led to a situation that is largely out of control. The company has released its patented insects although it was known before that some insects could survive in the environment. The expectations of their investors was more important than the protection of health and the environment. There is no insurance and no fast-track mechanism to prevent severe damage in a worst-case scenario,” says Christoph Then for Testbiotech. “This incident must have consequences for further applications of genetic engineering. Preventing the spread of genetically engineered organisms within natural populations has to become a priority.”

Several research institutions players are planning to create genetically engineered trees, bees, corals, several insect species and other organisms that can spread in natural populations. The long-term impacts of such trials are generally unpredictable. Unintended effects can disturb or disrupt ecosystems and lead to the extinction of species. Therefore, Testbiotech is proposing to introduce new criteria for the risk assessment of genetically engineered organisms to make sure they can be prevented from spreading uncontrolled into the environment.

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Further information:

The new publication: www.nature.com/articles/s41598-019-49660-6

Previous news about genetically engineered honey bees: <https://www.testbiotech.org/en/press-release/honey-bees-nature-conservation-genetic-engineering>

Critical review of filed trials with GE insects:

www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/Oxitec_failed_GM_mosquito_releases_worldwide_Forewarnings_for_Africa_and_the_Target_Malaria_project.pdf