

Too soon to release GM mosquitoes to fight Zika: US study

June 9 2016



The Zika virus is mainly spread via the bite of the *Aedes aegypti* mosquito

Releasing genetically-modified mosquitoes into the wild to fight malaria, Zika or other insect-borne diseases is premature and could have unintended consequences, researchers said in a new report.

"Our committee urges caution—a lot more research is needed to understand the scientific, ethical, regulatory and social consequences of

releasing such organisms," said Arizona State University professor James Collins, who was co-chair of a National Academies of Sciences, Engineering and Medicine committee.

The committee was studying gene drives—systems of "biased inheritance" that make it more likely for a genetic trait to pass from parent to offspring.

With new gene-editing techniques, modifications can quickly spread through a population via a gene drive, greatly increasing chances that the altered gene will become widespread.

"Preliminary research suggested that gene drives developed in the laboratory could spread a targeted gene through nearly 100 percent of a population of yeast, fruit flies or mosquitoes," the academies said in a news release announcing the committee's report Wednesday.

The technology could potentially be used to target wild mosquitoes, modifying them so they are not able to carry or spread infectious diseases such as dengue, malaria and Zika.

In agriculture, gene drive might be used to control pests that damage crops.

However, such technology could have devastating unintended consequences "such as the unintentional disruption of a non-target species or the establishment of a second, more resilient invasive species," the researchers said.

"Because the goal of using a gene drive is to spread genetic information throughout a population rapidly, it is difficult to anticipate its impact and important to minimize the potential for unintended consequences," the report said, calling for more research, phased testing and better

collaboration among scientists.

The committee found that existing regulations are insufficient for assessing risks of field experiments or planned releases of organisms modified through [gene drives](#).

"As of May 2016, no [ecological risk assessment](#) has been conducted for a gene-drive modified organism," the report noted.

© 2016 AFP

Citation: Too soon to release GM mosquitoes to fight Zika: US study (2016, June 9) retrieved 2 June 2023 from <https://phys.org/news/2016-06-gm-mosquitoes-zika.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.