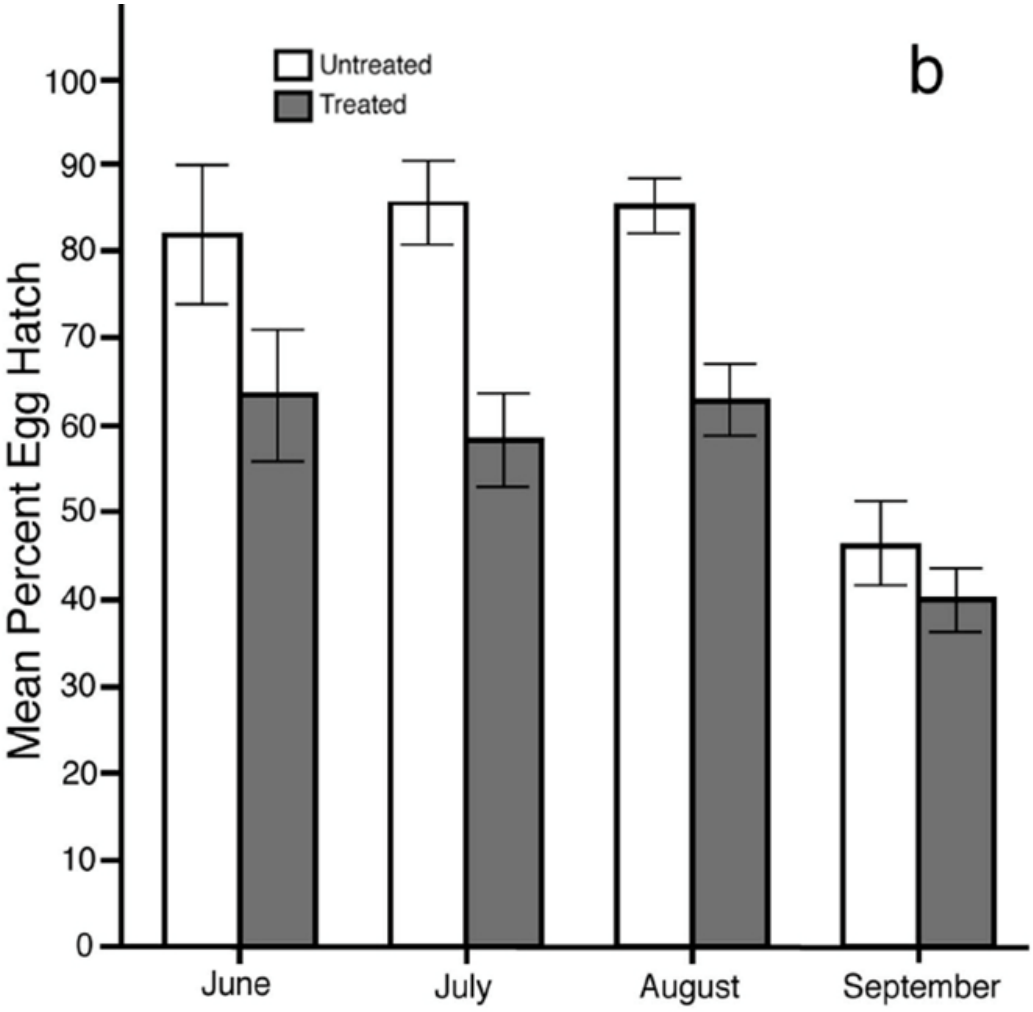

Caption: *Percentage of* Aedes albopictus *mosquito eggs that hatched at sites where male mosquitoes infected with* Wolbachia *bacteria were released (gray bars) and at sites where the mosquito population was left untreated (white bars). The error bars represent 95% confidence intervals (CI).*

OBSERVATIONS, NOTES & QUESTIONS

BACKGROUND INFORMATION	BIG IDEAS, NOTES & QUESTIONS
Some mosquito-borne pathogens, like the dengue, chikungunya, and Zika viruses, cause diseases for which there are not yet effective treatments or vaccines. Zika virus in particular has spread to more than 80 countries to date, making it a global concern. Zika can cause a debilitating illness of the nervous system called Guillain-Barré syndrome and, when a pregnant woman is infected, severe birth defects including microcephaly. An increasingly common approach to preventing the spread of these diseases is to target mosquito fertility rather than use insecticides, which can have negative environmental effects. One of these techniques involves using the naturally occurring *Wolbachia* bacteria that infect mosquitoes, making them, in some cases, infertile. When male mosquitoes are infected with *Wolbachia*, they must mate with an infected female to produce viable embryos. If they mate with an uninfected female, the early embryo is unable to go through mitosis after fertilization. Consequently, in the field, after mating with a *Wolbachia*-infected male, an uninfected wild female will lay eggs that never hatch. This is called cytoplasmic incompatibility. In this study, researchers tested whether releasing *Wolbachia*-infected male *Aedes albopictus* (Asian tiger mosquitoes) would suppress populations of this mosquito species in their study area. First, they infected male mosquitoes bred in the lab with a strain of *Wolbachia* known to cause this type of infertility. They worked with homeowners in the neighborhood (a suburban area of Lexington, Kentucky) and the Environmental Protection Agency (EPA) to carefully select the study area where they could release the infected mosquitoes. Each week for 17 weeks, they released 10,000 *Wolbachia*-infected male mosquitoes. The number of released mosquitoes outnumbered the native male population 10 to 1, a ratio expected to allow the released males to outcompete the native males for mating opportunities. The researchers collected adult mosquitoes and eggs at 15 sites where infected mosquitoes were released as well as at 11 sites nearby that were not treated with infected mosquitoes. The hatch rates of the eggs were then observed to assess the impact of the treatment on mosquito fertility.	