## Not fool-proof: Gene drive's greatest weakness is random DNA mutations

<u>Gene drive</u> is a technology that could squelch insect-borne diseases, by forcing deleterious traits engineered into the animals' DNA to spread throughout populations by selective inheritance. Researchers have shown gene drive is possible in the lab, but there appears to be a catch: <u>scientists found</u> genetic variations in the sites targeted for CRISPR-based editing can render the intervention useless.

"Although rare, these naturally occurring genetic variants resistant to CRISPR are enough to halt attempts at population control using genetic technology, quickly returning wild populations to their earlier, 'pre-CRISPR' numbers," said coauthor Michael Wade of Indiana University....

And these variants aren't researchers' only challenge. Wade and his colleagues wrote in their paper that "mild inbreeding, which is a characteristic of many disease-vectoring arthropods," had the same effect as these alleles that cause resistance to CRISPR.

...

Wade and his colleagues urge gene drive developers to assess genetic variation and mating practices in the wild before using the technology.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: <u>Gene Drive's Achilles Heel</u>