

Can promises of gene drive technologies overcome safety concerns?

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Gene drive enthusiasts say the technology could wipe out malaria, saving more than half a million lives each year. Invasive species, herbicide-resistant weeds and pesticide-resistant bugs could be driven out of existence. Animals that carry harmful viruses could be immunized with ease.

Scientists have sought the power of gene drives for decades. But only with the emergence of a genetic tool called CRISPR/Cas9 has gene drive technology offered the prospect of providing a speedy means to end some of the world's greatest health and ecological scourges.

"Everything is possible with CRISPR," says geneticist Hugo Bellen. "I'm not kidding."

But genes designed to spread through populations and alter ecosystems could have unforeseen consequences. Researchers have designed ways to keep gene drives confined in the lab, but no such safety nets exist for gene drives released into the wild. A technology to eradicate entire species, even when those species are pests, raises ethical and regulatory issues that scientific and government agencies are just beginning to consider.

As yet, no CRISPR gene drive has been released in the wild — few have even been built. There are plenty of technical hurdles to overcome. But there is enough awareness of the peril accompanying the promise that researchers and philanthropic organizations interested in the technology recently asked the U.S. National Academy of Sciences to weigh in on gene drives.

Read full, original post: [Gene drives spread their wings](#)