

CRISPR could be used to make virus-resistant crops without introducing foreign genes

Plant viruses are ubiquitous in natural environments and can severely limit plant growth and fertility. Globally, viruses are a significant economic burden... because of absolute yield losses in the field and decreased marketability of harvested crops...

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...[W]e aimed to generate virus-resistant plants by novel mutation at the *eIF(iso)4E* locus in *Arabidopsis thaliana* using CRISPR/Cas9 technology. Our rationale for the induction of such mutations by CRISPR/Cas9 genome editing was to showcase the concept for the generation of virus resistance, which can be applied directly to important crops in the future. ...[W]e believe that this work will pave the way as a strategy for the reverse engineering of [virus] resistance in a wide variety of crops.

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...[I]t would be hard to justify objections to the commercial application of such a strategy, as the final genome-edited product is essentially no different to varieties carrying mutant alleles arising from 'natural' methods of mutagenesis. ...[T]he engineered viral resistance reported here is the result of a single-nucleotide point mutation arising from the plant's own natural DNA damage repair mechanism... [W]e have shown that it is feasible to ... produce stable, heritable point mutations without a persistent transgene...

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original post: [Engineering of CRISPR/Cas9-mediated potyvirus resistance in transgene-free Arabidopsis plants](#)