

## Researchers 'evolve' new Bt toxin that could fight insect resistance to GMO crops

**The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis.**

*Bacillus thuringiensis* (Bt) crops have been one of the most successful applications of genetic engineering in agriculture. The crops carry a gene that encodes a bacterial protein that kills insects that ingest it. While it's possible to spray crops with the Bt toxin instead, farms that rely on Bt GMO crops are more profitable, have higher productivity, and use less pesticides.

Unfortunately, evolution isn't sitting still, and Bt-resistant insects are beginning to become a problem. While scientists are developing new crops with other Bt genes and farmers can adopt agricultural practices that limit the risk of resistance, some researchers decided to short-circuit the whole process. In a new paper, they figured out how to evolve a completely new Bt toxin in a virus that infects bacteria and showed that it was effective in killing insects.

. . . .

All of this was a staggering amount of work. But the authors argue it was worth it because the basic approach . . . can be re-deployed for a variety of purposes. Want to target a completely different type of insect? It should work. . . . With a large collection of new Bts, we should be able to handle the issue of existing Bt-resistant insects as well as engineer a new collection of crops that carry multiple Bts, making evolution of additional resistance unlikely.

And that's just the benefits in pest control. The authors note that similar approaches are already being attempted with medically relevant targets. Sometimes, biotech makes other technology fields look positively conservative.

**Read full, original post:** [Researchers evolve new toxin to target agricultural pests](#)