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Crops That Shut Down Pests' Genes

Continued from page 1

By [Katherine Bourzac](#)

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In addition to killing nonpest insects, Mathey-Prevot says, the gene-silencing mechanism could spread between different species of plant, or from plants to other organisms, such as bacteria in the soil. Such spread might be harmless, but then again, it might not. "We need to understand it a little bit more," Mathey-Prevot says.

Vaughn says that the research is in its early stages and that Monsanto has not set a timeline for bringing gene-silencing crops to the market. Monsanto will put its new transgenic corn "through a battery of tests" to establish that its effects are specific to corn rootworms, he says. Tobacco cutworms that ingested the corn did not seem to be affected.

But to prove conclusive, researchers say, such testing would have to be arduous. "You would have to anticipate all the species you wouldn't want it to affect" and then test them, says [David Root](#), project leader of the RNA Interference Consortium at the Broad Institute, Harvard and MIT's jointly operated center for research on genomic medicine. And Gordon anticipates that regulatory agencies will demand broad screening.

Although humans have genes similar to insect genes, researchers say that it is highly unlikely that ingesting Monsanto's corn would cause gene silencing in people. "If you fed tons of it to a mouse, I don't think you'd get anywhere," says Root. RNA "just gets digested" by mice and humans.

The U.S. government does not require the labeling of foods containing genetically modified organisms, but it does require safety testing. [Fred Gould](#), professor of agriculture at North Carolina State University, says that because the new crops produce what's effectively a pesticide, they would be regulated by the U.S. Environmental Protection Agency. Such foods must be tested both in animals and through exposure to what Gould calls "reconstituted human stomach juices."

It's also unclear how widely applicable the use of RNA interference as a pesticide will be. In many insects, ingestion of RNA may not cause gene silencing. But cotton bollworms and corn rootworms are major agricultural pests, feeding on two of the most widely grown crops in the world. Even if RNA interference is helpless against any other insects, it could still have a major impact on agriculture.

Mathey-Prevot counsels patience. At this point, he says, it's too early to make claims about the safety of the technique. But, he says, that also means it's too early to conclude that the ability to cause RNA interference is any more dangerous than current genetic modifications of food crops.

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Meanwhile, what is killing our bees?
 Boyceg

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[Boyceg](#)
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Re: Crops That Shut Down Pests' Genes

A virus is one possibility:
<http://www.technologyreview.com/Biotech/19348/>

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[Rachel Kre...](#)
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..drawback to Bt is its nonspecificity.

No quotation nor citation regarding this pantload. Bacillus thuringiensis sp. are target organism specific; they affect larval guts. Non-target effects are "scientifically qualified" as nil. Principle drawbacks: Bt must be applied; application must coincide with pest activity; and, Bt must be ingested.

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bee-t

Thanks RevTech for beeing so specific.

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Re: bee-t

LOL
 Try mites and a virus combo.
 Now if they'd only really work on it!!
 In the mean time we need someone spreading other species of bee to fill the void thats bee-ing left!!
 Its doubtful that moving species to other areas will cause more problems than cures.

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possibilities

What if the ingesting of these plants, later, causes problems for the ones who ingested them? Just as it does for the insects it is intended to stop?!

Saying it has been tested, only proves that it hasn't caused a problem YET!

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[wisewolf](#)
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 Posts:1

Trust

Science aside trusting Monsanto to actually do the right thing by the consumer is a joke. They are developing for patent rights and then of course profit. Read more about how they are locking up what farmers can and cannot grow. By removing the diversity of crops Monsanto is taking us down a road that could very well destroy that which feeds us all. I cannot speak for this process and I am a great fan of science but Monsanto does not have a good track record as far as I'm concerned. If you believe otherwise you are an idiot.

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