

08/2013/2012 \_\_\_\_\_082013\_GMOs

Camille Phillips

~~Sixteen-Eighteen~~ years ago, genetically modified food was introduced in the United States. ~~First there were tomatoes, then soybeans, potatoes and corn. Every year since~~As the years passed, more and more farmland was planted with genetically modified crops—plants with a gene added to their DNA, giving them new traits such as pesticide resistance. ;

~~a greater and greater portion of U.S. crops have been genetically modified—basically, the DNA altered to CREATE include a foreign gene that added a desired trait such as pesticide resistance.~~

During that same ~~time~~ period, a growing number of children ~~have~~ developed allergies to food.

Despite assurances of safety from biotech companies and government agencies, the parallel

timing has ~~raised suspicion~~made some parents concerned and some activists suspicious. ; Harvest

Public Media’s Camille Phillips ~~checked out the research~~has the story.

082013\_GMOs

—TRT: 5:19

SOC

~~At this grocery store in Liberty, Missouri, s~~Some people ~~are~~ reading labels ~~at the grocery store~~

because they’re counting calories or want to eat healthier. Jenny Giles ~~is~~ readings labels to avoid buying something that could ~~harm~~kill her daughter Avery.

Giles ambi – banana pops

-TRT: 0:05

OC: I’ll let you.

*“Well those are all right for you. (They’re Blue Bunny) It has allergy information right there. If you want to get those banana pops I’ll let you.”*

Ten-year-old Avery Giles is highly allergic to peanuts. [Just sitting next to a friend eating a peanut butter sandwich ~~could~~ cause her to break out in hives.] Eating a peanut could cause her throat to swell up, ~~make her unable to breathe,~~ put her in a coma or even kill her.

Avery01

TRT: 0:057

OC: and

~~things~~shots

*"I get really scared sometimes of the ambulance and shots..." ~~and things...~~"*

A food allergy like Avery's used to be ~~practically unheard of REALLY?~~ pretty rare, but it's becoming more common. According to the Centers for Disease Control and Prevention, the number of children with food allergies rose 18 percent between 1997 and 2007.

It may be that more people report that their children have food allergies today because they are more aware of the possibility. Or perhaps, as some argue, more children in the United States develop food allergies because children are less exposed to germs and allergens.

But others point out that ~~t~~The first genetically modified food hit grocery store shelves in the mid-90s ~~1996~~. That means today's children and teenagers have been eating genetically modified food all their lives, in steadily increasing proportions. ~~anyone under the age of seventeen was born after genetically modified food became part of the American diet.~~

The first genetically modified food hit grocery store shelves in 1996. That means anyone under the age of seventeen was born after genetically modified food became part of the American diet.

~~But~~ just because the timing coincides, though, does not necessarily mean eating genetically modified food caused the rise, says Rick Goodman. He is a Food Science and Technology ~~research~~ professor at the University of Nebraska-Lincoln.

Goodman 01 short TRT: 0:2135 OC: ~~is~~  
~~there a link~~ during our lifetime

~~“But we have to~~ kind of look at our whole world, the whole context. If so many things are changing in our diets, in how much exercise we get, in vaccinations that keep us from having certain diseases, in the number of visits to the doctor, in how many times we take antibiotics during our lifetime, ~~things like that...~~”

~~If you have a minor one protein introduced into a plant, and you don't even know how often you're eating that one protein, but it's a very small part of your diet...is there a link...?~~

Goodman's specialty is assessing the risk of allergens in genetically modified products, a skill he developed working for the biotech ~~company-giant~~ Monsanto. St. Louis-based Monsanto makes some of the most popular genetically modified products on the market, including Roundup Ready Soybeans and Corn.

AMBI - lab - machine

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At his lab on the University of Nebraska-Lincoln campus, Goodman explains the steps he takes to test the likelihood that products may cause an allergic reaction.

Ambi - lab explanation

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First, the protein created by the added gene is isolated. Then that protein is tested on a serum made from the antibodies of people allergic to similar proteins.

According to Goodman, this process is enough to determine whether a genetically modified product is at risk of causing allergic reactions.

Goodman03 TRT: 0:12 OC: genetically modified crops

*“...under the current system and products that are available, there is really no reason concern for a health impact from genetically modified crops.”*

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But Jeffrey Smith disagrees. Smith is a longtime critic of genetically modified food who has made it his mission to expose the dangers he believes they pose and get the products removed from the food supply.

Smith3 TRT: 0:20 OC: as food

*“The process of genetic engineering can cause hundreds or thousands of mutations up and down the DNA and up to 5 percent of the existing natural genes can change their levels of expression. And these are not evaluated in the superficial studies that are being done before the crops get on the market as food.”*

Smith gets some of his information from published studies, but much of it ~~seems to~~ comes from personal communication with scientists. He acknowledges that there’s not a lot of conclusive research solid proof yet, but he thinks ~~that~~ initial findings are worrisome enough to merit further studyresearch. Many of the studies Smith does reference are animal studies, because there are few human studies.

Smith 02 TRT: 0:09 OC: in laboratories

*“We know that animals consistently react to GMOs when their immune system is tested in a competent way in laboratories.”*

But according to Goodman, current animal studies only predict human reactions half the time.

He says testing people for allergic reactions can be dangerous and complicated—which is why

researchers use human antibodies in pre-market tests. As for studies on people eating genetically modified food already on the market, Goodman says those are too hard to control.

~~According to Goodman, current animal studies only predict human reactions half the time, and shouldn't be used as evidence. One of his projects is researching ways to make animal studies more predictive.~~

~~Goodman03 TRT: 0:26 OC: genetically modified crops~~

~~*"If you want to listen to science, you have to listen not just to Jeffrey Smith, but then you have to look at scientific journals and you have to ask why quite a few very reputable scientists who deal with food and nutrition and medicine have said that there really, under the current system and products that are available, there is really no reason concern for a health impact from genetically modified crops."*~~

~~Smith also thinks there needs to be long term studies on humans eating genetically modified food. But Goodman says that would be too complicated.~~

Goodman05 TRT: 0:11 OC: a population?

*"We don't know who ate Roundup Ready soybeans versus quote unquote conventional soybeans. So how can you make a correlation and how do you study a population?"*

It's fairly safe to say that most everyone in the United States has eaten genetically modified soybeans—for the past five years more than ninety percent of the U.S. soybean crop has been genetically engineered. And soy can be found in a lot of different types of food, especially processed food—everything from breads and pasta to meat and dairy.

AND SOYBEANS SHOW UP WHERE?

If genetically modified food were labeled, then maybe scientists could keep track and these types of studies would be more feasible. ~~In fact, getting them labeled~~ is one of the activist Smith's primary goals. He thinks labeling genetically modified food will lead to customers rebelling against the technology.

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AMBI – support group

At a ~~restaurant in support group in~~ Lee's Summit, Missouri, however, three ~~mothers~~ members of a support group for parents of highly allergic children. ~~see another problem. say they don't know if labeling would do any good.~~

Hawkins01

TRT: 0:0744

–OC I'd be

like-ugh!any food left

*"I don't see that there would be much left to buy. And I'm already so limited; I'd be like-ugh!!"*  
*(So you'd be kind of forced to buy it?) Yes, I'm forced to buy what's there."*

~~The food they can buy is already limited by their children's allergies, so they are hesitant to add any more restrictions.~~

~~Soon, In~~ labels on genetically modified food could soon be put to the test. A ballot initiative ~~to require labeling on the topic~~ will be voted on in California come in November. ~~The biotech industry says labeling would be difficult and costly, but it's unclear whether the cost would be paid by taxpayers, consumers or the companies themselves.~~

I'm Camille Phillips for Harvest Public Media.

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Out takes:

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~~As years passed, more genetically modified products were added. Designed to ... The most popular genetically modified crops have a gene inserted into the plant's DNA to give the plant protection against weeds and insects. ...inserting a gene from...~~

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~~Seventeen years ago, the U.S. Food and Drug Administration cleared the first genetically modified plant for sale: a soybean whose DNA was altered to include a bacteria gene designed to protect the plant from a pesticide. As years passed, the variety and prevalence of genetically modified products grew. During that same time period, the number of people with food allergies began to rise.~~

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~~It's a process involving petri dishes and test tubes, not humans or animals.~~

~~But sequencing the inserted gene and testing the protein it creates isn't enough for Jeffrey Smith. He thinks the entire DNA sequence of the genetically modified plant should be mapped after the new gene is inserted and compared with the original.~~

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