

Top Reasons Not to Eat Genetically Engineered (GE) Food

Genetically engineered food has not been properly tested —We are the test subjects

Genetic engineering is a young and in many ways a poorly understood technology. With little or no regulatory restraints, labeling requirements or scientific protocol, bio-engineers have begun creating hundreds of new GE foods and crops. The research is done with little concern for human and environmental hazards and the negative socioeconomic impacts on the world's several billion farmers.

Genetic engineering may create new toxins harmful to human health

In 1989, a GE version of tryptophan, a dietary supplement, produced toxic contaminants. Before it was recalled by the Food and Drug Administration, thirty-seven people died, 1,500 were permanently disabled and 5,000 became ill with a blood disorder, eosinophils myalgia syndrome.

All genetically engineered crops contain bacterial DNA. This DNA contains a genetic element that stimulates the immune system to start a sequence of reactions leading to inflammation. In 2002 significant concerns regarding human health were raised when researchers discovered that GE DNA material from crops is finding its way into the human gut bacteria. Researchers found that an herbicide-resistant gene from genetically altered soy was found in three of seven test patients. Exposure to these genetic elements may lead to promotion of inflammation, arthritis and lymphoma (a malignant blood disease).

Genetic engineering contaminates the environment

Once a genetically engineered seed is released into our environment, it cannot be recalled. The genie is out of the bottle so to speak. One concern associated with genetic engineering is "gene flow"—that is, the movement of genes from one organism to another. As a part of their normal reproductive cycle, plants transmit their DNA to other compatible plants via pollen. Genes from fields of crop plants can be transmitted by pollination to plants in the same or other fields, or in some cases even to other closely-related non-crop plants.

A European Union study released in 2002 revealed that GE crops will eventually contaminate organic farms, create superweeds and drive wild plants to extinction. GE oilseed rape has cross pollinated non-GE crops two and a half miles away, and research in Scotland indicates that bees can carry the pollen of GE plants six miles away. GE corn pollen has been known to travel up to 20 miles, infecting non-GE corn crops in the process.

Damage to the Soil

One of our most valuable resources is soil and scientists are concerned that GE mutated crops may damage it. Researchers have reported that some types of GE crops may be leaking powerful toxins into the soil. Many GE crops such as corn and potatoes have been engineered to produce poisons or toxins to fight pests that eat their leaves and stems. Researchers fear that beneficial soil organisms also may be killed, and that some insects may become resistant to the toxins. This fear has been validated by the birth of super bugs and super weeds in our environment. These are bugs and weeds that have mutated to a point where they are no longer affected by these GE crop toxins.

Food Allergies

In 1996 a major food disaster was narrowly averted when Nebraska researchers learned that a Brazil nut gene spliced into soybeans could induce potentially fatal allergies in people sensitive to Brazil nuts. People with food allergies (which currently afflicts 8% of all North American children), whose symptoms can range from mild unpleasantness to sudden death, may likely be harmed by exposure to foreign proteins spliced into common food products. Since humans have never before eaten most of the foreign proteins now being gene-spliced into foods, stringent pre-market safety-testing (including volunteer human feeding studies) is necessary in order to prevent a future public disaster.

The Problem of Unintended Consequences

Cornell University researchers have found that GE corn may be deadly to the Monarch butterfly. In laboratory tests in the spring of 1999, the scientists found that nearly half of Monarch caterpillars that ate milkweed leaves dusted with GE corn pollen died within four days.

Scientists worry that there may be additional surprising scientific discoveries down the road. Biotech firms assure us there's nothing to worry about. Genetically engineered foods, they say, will save the environment.

The discovery that genetically engineered corn might be deadly to Monarch butterflies came as a shock to biotech advocates. If biotech companies continue with their massive experiment, what will our scientists tell us 50 years from now?



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Genetically Engineered Foods and the Environment

When biotech corporations boast that genetic engineering can do wonders for the environment, we would do well to consider the source. After all, some of these companies are the same ones that have invented such deadly pesticides as DDT and Agent Orange.

Farmers have planted millions of acres of genetically engineered crops so far. A look at some of the environmental problems:

A threat to Monarch butterflies

Cornell University researchers have found that altered corn may be deadly to the Monarch butterfly. In laboratory tests in the spring of 1999, the scientists found that nearly half of Monarch caterpillars that ate milkweed leaves dusted with genetically engineered corn pollen died within four days. The surviving Monarchs that ate the genetically mutated corn pollen were much smaller and had smaller appetites than the control Monarchs, which ate normal corn pollen or no pollen at all.

In 2000, Iowa State University scientists found that plants growing in and near cornfields are being dusted with enough GE pollen to kill monarch caterpillars that feed on them.

Genetic contamination of the environment

Many scientists are concerned about the widespread release of genetically modified organisms (GMOs) into the environment. A European Union study released in March 2002 revealed that genetically engineered crops will inevitably contaminate organic farms, create superweeds and drive wild plants to extinction. Genetically engineered oilseed rape has cross-pollinated non-biotech crops two-and-a-half miles away, and research in Scotland indicates that bees can carry the pollen of genetically engineered plants six miles away.

Altered genes can jump species barrier

In May, 2000, Professor Hans-Hinrich Katz, a leading German zoologist, released research that shows that genes

used to modify crops can jump to other species and cause bacteria to mutate. Katz found that the gene used to modify oilseed rape had transferred to bacteria living in the guts of honey bees.

"These findings are very worrying and provide the first real evidence of what many have feared," says prominent genetic engineering critic and scientist Dr. Mae-Wan Ho. "Everybody is keen to exploit GM technology, but nobody is looking at the risk of horizontal gene transfer. We are playing about with genetic structures that existed for millions of years and the experiment is running out of control."

Herbicide resistance and fears of the rise of superweeds

Some scientists fear that the extensive planting of genetically engineered crops will lead to a new class of "superweeds" that are resistant to pesticides. The largest class of genetic engineered foods is pesticide-resistant crops, such as Roundup Ready soybeans. The problem is that newly created transgenes may be spread unintentionally - by bird, insect or wind - from target crops to related weed species. The weeds then also pick up resistance to the pesticide.

The New York Times reports that the popularity of Roundup-Ready crops has caused the use of Roundup Ready to skyrocket so much the rare weeds that survive the herbicide will flourish, and that farmers will need to reduce their use of the herbicide to preserve its long-term usefulness.

And Ohio State University researchers have found that weeds are becoming fitter and stronger by cross-breeding with genetically modified crops. In the study, wild sunflowers, classified as 'weed' varieties, became hardier and produced 50 percent more seeds when crossed with genetically altered sunflowers that had been engineered to resist seed-nibbling moth larvae.

GMOs introduced into the wild pose greater risk of species extinction, scientists say.

Purdue University scientists have determined that introducing GMOs into wild populations "holds a greater theoretical risk of extinction of natural species than previously believed," according to a June 2002 Purdue University press release.

William Muir, professor of animal sciences, and Richard Howard, professor of biology, made headlines in 2000 when they determined that releasing genetically engineered fish into wild populations could lead to extinction of those wild fish. Specifically, they calculated that if 60 transgenic fish were released into a population of 60,000 wild fish, in 40 generations, the species would become extinct. They call this the "trojan gene effect."

Unfortunately, the two researchers have discovered additional scenarios that could lead to extinction even more quickly -- as quickly as 20 generations. "We consider this an extreme risk," Howard says. "That's the most severe time frame we've encountered so far."

Damage to the soil

Scientists are concerned that genetically mutated crops may damage the soil. Researchers for Nature magazine reported in December that some types of GE crops may be leaking powerful toxins into the soil. Many GE crops, such as corn and potatoes, have been engineered to produce poisons or toxins to fight pests that eat their leaves and stems. Researchers fear that beneficial soil organisms also may be killed, and that some insects may become resistant to the toxins.

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Genetically Engineered Foods and Your Health

Millions of acres of genetically engineered crops have been planted in the United States, and nearly two-thirds of the products on our supermarket shelves contain genetically engineered ingredients. But genetically engineered foods remain poorly studied, and scientists simply can't say with any authority that they are absolutely safe for human consumption. In fact, many questions persist.

Very few studies have been conducted to determine whether genetically engineered foods are harmful to human health.

Genetic engineering is a young, and in many ways poorly understood, technology. Many scientists believe that genetically engineered foods have been rushed much too quickly to market – to boost multinationals' profit margins – before adequate testing has been completed to ensure public health.

The Royal Society of Canada – the nation's foremost scientific body – says there is insufficient research into the potential allergic effects and toxicity of genetically engineered foods. Genetically altered foods could cause "serious risks to human health," the society says.

According to the Washington Post, the lack of studies "is the legacy of a U.S. policy that considers gene-altered plants and food to be fundamentally the same as conventional ones, a policy some Americans are starting to question...

"And it is the legacy of broken promises by the Food and Drug Administration and the Environmental Protection Agency, both of which have said for the past five years that they intend to write rules to minimize the chances that gene-altered food will cause allergies or damage the environment."

Genetic engineering may trigger allergies in people.

Genetic engineering may involve the transfer of new and unidentified proteins from one food into another, with the potential of setting off allergic reactions. And allergies aren't simply a matter of slight discomfort; they can potentially result in life-threatening anaphylactic shock.

Without labeling, people with allergies won't know if they are eating foods that contain genes from other foods to which they are allergic.

Genetic engineering may create new toxins harmful to human health.

Scientists say genetic engineering may produce new toxins, with potentially devastating results for humans. In at least one case, disaster has already happened.

In 1989, a genetically engineered version of tryptophan, a dietary supplement, produced toxic contaminants. Before it was recalled by the Food and Drug Administration, the mutated tryptophan wreaked havoc. Thirty-seven Americans died, 1,500 were permanently disabled, and 5,000 became ill with a blood disorder, eosinophila myalgia syndrome.

Biotech companies want to use farm crops to grow pharmaceutical drugs.

A biotech blunder in the autumn of 2002 came perilously close to contaminating the food supply with so-called "pharm" crops. Corn genetically engineered to produce pharmaceutical drugs contaminated a grain elevator of soybeans in Nebraska worth \$2.7 million dollars. The corn was almost released into the food supply. Fortunately, the federal government intervened - barely in the nick of time.

Pharmaceutical crops raise the eerie specter of contamination of our food with crops designed to produce drugs such as AIDS vaccines, blood-clotting agents and more.

The National Academy of Sciences warns: "It is possible that crops transformed to produce pharmaceutical or other industrial compounds might mate with plantations grown for human consumption, with the unanticipated result of novel chemicals in the human food supply."

British study finds that genetically engineered bacteria lives on in human gut.

Significant concerns over human health were raised in July 2002 when researchers discovered that genetically modified DNA material from crops is finding its way into human gut bacteria.

Researchers at the University of Newcastle in northern England found that an herbicide-resistant gene from genetically altered soy was found in three of seven test patients.

This development is highly significant because it provides evidence that what the biotech industry has been saying about this issue is wrong. Industry officials have stated repeatedly that DNA from genetically altered food cannot transfer to human gut bacteria.

Genetic engineering may lead to antibiotic resistance.

Genetic engineers use antibiotic "markers" in almost every genetically modified organism to indicate that the organism has been successfully engineered. Scientists believe these antibiotic markers may contribute to the decreasing effectiveness of antibiotics against diseases.

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