

Genetically Modified Foods are Inherently Unsafe • Jeffrey M. Smith • www.seedsofdeception.com

Assumption	Actual Status	Quote
Inserted genes will produce a single protein.	Inserted foreign genes might create multiple proteins, with unpredictable consequences.	“The fact that one gene can give rise to multiple proteins . . . destroys the theoretical foundation of a multibillion-dollar industry, the genetic engineering of food crops.” — Dr. Barry Commoner, senior scientist at the Center for the Biology of Natural Systems at Queens College
The proteins created by inserted genes will act exactly the same way in a new organism.	Foreign proteins may be folded improperly or become attached to other molecules, which could change their properties. Likewise, gene expression may be affected by the genetic disposition of a host organism, or even the environment.	Dr. Peter Wills of Auckland University warns, “an incorrectly folded form of an ordinary cellular protein can under certain circumstances . . . [duplicate itself] and give rise to infectious neurological disease.” Professor David Schubert of The Salk Institute for Biological Studies says the effect that a particular protein has on a plant or animal “can be modified by the addition of molecules such as phosphate, sulfate, sugars, or lipids.”
Inserting foreign genes is precise and non-disruptive.	The process of inserting foreign genes can damage the structure and function of the host’s DNA, switch genes on or off, create never-before-seen genetic sequences, and render the genome unstable.	The BBC Tomorrow’s World Magazine says: “Genetic engineering is generally a hit and miss affair. The genes may be inserted the wrong way round or multiple copies may be scattered throughout a plant’s genome. They may be inserted inside other genes—destroying their activity or massively increasing it. More worryingly, a plant’s genetic make-up may become unstable. . . . Rogue toxins may be produced or existing ones amplified massively. Such problems may only arise hundreds of generations after the crops are originally modified.”
Foreign genes will not transfer to bacteria in the digestive system. Use of antibiotic resistant genes are therefore safe.	Foreign genes jumped to human gut bacteria in just one meal of a GM soy burger and soy milkshake.	“British scientific researchers have demonstrated for the first time that genetically modified DNA material from crops is finding its way into human gut bacteria, raising potentially serious health questions.” — The Guardian, 1992. Murray Lumpkin, M.D., then director of the US Food and Drug Administration Division of Anti-infective Drug Products, warned: “IT WOULD BE A SERIOUS HEALTH HAZARD TO INTRODUCE A GENE THAT CODES FOR ANTIBIOTIC RESISTANCE INTO THE NORMAL FLORA OF THE GENERAL POPULATION.”

The promoter that keeps foreign genes switched on, only influences that one gene.

The promoter may turn on native genes “over long distances” up and down the strand of DNA—even genes on a different chromosome. This can create a flood of proteins with unpredictable consequences. Some scientists theorize that the promoter might even switch on dormant viruses that are deposited along the DNA.

“When inserted into another organism as part of a 'genetic construct,' it [the promoter] may also change the gene expression patterns in the recipient chromosome(s) over long distances up- and downstream from the insertion site.” — Dr. Michael Hansen, Consumers Union, publishers of Consumer Reports. And in their paper, “Cauliflower Mosaic Viral Promoter—A Recipe for Disaster,” Drs. Ho, Ryan, and Cummins warn, “Horizontal transfer of the CaMV promoter . . . has the potential to reactivate dormant viruses or [create] new viruses in all species to which it is transferred.”

The promoter is stable.

Studies indicate that the promoter may create a “hotspot” in the DNA, whereby the whole DNA section, or chromosome, can become unstable. This can cause breaks in the strand or exchanges of genes with other chromosomes.

According to Geneticist Dr. Joe Cummins, a promoter can have “the same impact as a heavy dose of gamma radiation.”

The promoter only works with plant organisms.

Research indicates that the promoter can influence animal genes. Some scientists believe it can transfer to internal organs and accelerate cell growth, possibly leading to cancer.

Dr. Stanley Ewen, one of Scotland’s leading experts in tissue diseases, says, “It is possible GM DNA could affect stomach and colonic lining by causing a growth factor effect with the unproven possibility of hastening cancer formation in those organs.”

Nutritional properties are unaffected by genetic modification.

Significant differences in nutritional content between GM crops and their natural counterparts have been observed.

“Roundup Ready beans were significantly lower in protein and the amino acid phenylalanine. More disturbing were [increased] levels of the allergen trypsin inhibitor in toasted Roundup Ready meal. . . . Lectins in Roundup Ready beans almost doubled the levels in controls. What might be the result of consuming foods with high levels of trypsin inhibitor and lectin? Well, maybe slower and lower growth, say scientists.” — Medical writer Barbara Keeler, on data that has been omitted from Monsanto’s published study.

Genes and their expression will act in isolation, not impacting other metabolic processes.

Insertion of foreign genes and their new proteins may create complex, unpredictable interactions, not well understood. Similarly, inserting two or more foreign genes into the same plant may also cause interactions that have not been studied.

University of Georgia's Dr. Sharad Phatak says, "When you insert a foreign gene, you are changing the whole metabolic process. . . Each change is going to have an effect on other pathways. Will any one gene kick off a whole slew of changes? We don't know for sure." Stanford's Dr. Charles Yanofsky says, "Genetic engineering results in the formation of higher than normal concentrations of certain enzymes and products; these could provide the basis for the synthesis of higher levels of toxic substances." Commenting on the genetically modified supplement L-tryptophan produced by Showa Denko, which killed about 100 people and caused 5-10,000 to fall sick, Yanofsky, one of the world's leading authorities on tryptophan biosynthesis, says, "If Showa Denko engineered the bacterium to overproduce tryptophan [which they did], then there are many unknowns that would be associated with its overproduction."

There is no risk from breathing pollen from GM crops

If GM genes can transfer to gut bacteria or internal organs, then inhalation of pollen may cause unpredicted health problems.

"Experts on the US Govt. Advisory Committee on Novel Foods and Processes have issued a warning about plants being grown in the U.S. and parts of Europe which contain a gene resistant to antibiotics. They are concerned that, if workers breathe in dust as the crops are processed, the resistance could be transferred to bacteria in their throats. Around one in five people are carriers of the meningitis bacteria, even though they are not affected by the disease. Microbiologist Dr. John Heritage, a member of the committee, has written to American authorities to express his worries. 'It's a huge concern to me,' he said. 'While the risk is small, the consequences of an untreatable, life-threatening infection spreading within the population are enormous.'" Daily Mail (UK)

The chances of GM crops being allergenic are minimal.

After GM soy was introduced into the UK, soy allergies skyrocketed 50%. Current GM corn would not pass tests recommended by international Codex standards for potential allergenicity. It took the FDA 9 months to develop an allergy test for StarLink corn; It was so poorly designed, however, that the EPA's Scientific Advisory Panel rejected its results.

The FDA's 1992 policy states, "At this time, FDA is unaware of any practical method to predict or assess the potential for new proteins in food to induce allergenicity and requests comments on this issue." FDA scientist Dr. Carl Johnson wrote, "Are we asking the crop developer to prove that food from his crop is non-allergenic? This seems like an impossible task." According to FDA microbiologist Dr. Louis Pribyl, "the only definitive test for allergies is human consumption by affected peoples, which can have ethical considerations." According to a 1999 Washington Post article, there is still "no widely accepted way to predict a new food's potential to cause an allergy. The FDA is now five years behind in its promise to develop guidelines for doing so." The same remains true today.