

# Bioengineered Food Project

## Introduction:

The advancements in the field of biotechnology have allowed scientists to insert genes into food sources so the altered DNA produces new proteins that lead to new characteristics in the plants. By inserting a gene into a particular plant, the resulting protein may make the plant resistant to insects or resistant to a particular herbicide. The farmers' ability to yield larger crops greatly improves when these alterations are made. Other genetic modifications improve the nutritional quality of food.

Several products you buy at the grocery store including corn, beets, canola and soy are probably genetically modified, but you have no way of knowing unless the manufacturer chooses to label the product. Opponents to genetically modified food fear that future studies may uncover health risks linked to ingesting this altered form of DNA. Others suggest that the use of genetically altered plants may result in the overuse of chemicals to control weeds, and ultimately cause adverse environmental conditions. Currently there is not a law that mandates the labeling of genetically modified food products.

## Task:

Your task will be to design a persuasive piece (pamphlet, advertisement, editorial, commercial, advertisement etc.) in support of or in opposition to the mandatory labeling of genetically altered food based on scientific evidence. You will be selecting the format of your project later.

But first, you will be researching genetically modified foods. Use the links below to help guide you in your research. Be aware of "extremist organizations! Be sure to cite all sources. The questions below will help you focus your research.

1. What is the definition of a genetically modified organism/food?
2. What are the areas of greatest promise in the modification of crop plants? and the consequences of greatest danger in the modification of crop plants?
3. What are the environmental advantages of genetically modified foods? and disadvantages of genetically modified foods?
4. What are the health benefits of genetically modified food? and health risks of genetically modified food?
5. What are the economic consequences?
6. Who benefits from this? Who is harmed?
7. What is the impact of genetically modified foods on the average consumer?
8. Do consumers have a right to know if the food they are buying contain GMOs when they shop?

### **The process of making GMOs**

1. [www.agbiosafety.unl.edu/education/whowants.htm](http://www.agbiosafety.unl.edu/education/whowants.htm) - Create a GMO
2. <http://animalsciences.missouri.edu/biotech/high/> - Go to the Hands On section--the gate--then to Plants
3. <http://science.howstuffworks.com/question148.htm>
4. <http://cls.casa.colostate.edu/TransgenicCrops/faq.html> - FAQ website
5. <http://www.who.int/foodsafety/publications> - info from the World Health Organization, click on Biotechnology for FAQs

### **Cons of GM foods**

6. [www.organicgardening.com](http://www.organicgardening.com) – Look under Genetic Engineering for articles.
7. <http://www.saynotogmos.org/index.htm>

### **Pros of GM foods**

8. <http://www.europabio.org/what-are-agricultural-biotechnology-and-genetic-modification>

### **Links that present both pros and cons**

9. <http://science.howstuffworks.com/question148.htm> -
10. [http://www.ornl.gov/sci/techresources/Human\\_Genome/elsi/gmfood.shtml](http://www.ornl.gov/sci/techresources/Human_Genome/elsi/gmfood.shtml) - the Human Genome Project Information
11. <http://actionbioscience.org/biotech/>
12. <http://scope.educ.washington.edu/gmfood/>

### **Links that discuss labeling**

13. [http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Food\\_and\\_Biotechnology/hhs\\_biotech\\_0901.pdf](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Food_and_Biotechnology/hhs_biotech_0901.pdf)
14. <http://www.who.int/foodsafety/publications>