

# Gm foods essay example

[Science](#), [Genetics](#)



## **Is GM food one of your serious environmental concerns? Why or why not?**

Genetically modified (GM) food is one of the most hot topics of our time, which has separated the world into GM friendly countries and GM opponents. As both sides have quite important arguments on their sides, it is not possible to find a common decision, which would satisfy everyone. Therefore, only careful consideration of all the pros and cons and a clear definition of the priorities can give an opportunity to find the most favorable solution for the particular country.

Firstly, it is important to understand the difference between genetic modification and breeding. For centuries farmers were trying to select the best crops, to cultivate only the most resistible plants and to cross-breed different species in order to obtain superior harvest. This process was slow and tedious, requiring experiments with different combinations, which could be tested only during harvesting periods. In this case, only very close types of crops could be bred. Genetic modification, on the other hand, gives fast results, which can be visible already in the first generation. It also allows to modify very specific traits of the species, therefore, the results of the process can be predicted with higher certainty. However, while the outcome is quite predictable, the possible consequences of mass cultivation of such crops is not yet known. Therefore, it is still safer to modify and adjust crops using cross-breeding and gene exchange between similar species, thus avoiding the usage of questionable methods of gene crossing between completely different species.

The main proponents of the GM food often present economic reasons for their position. Firstly, GM crops are more disease and pest resistant and can grow in harsh environments. Therefore, farmers would be able to achieve higher yields, to avoid losing harvest due to weather changes and not to incur losses in the fight against harmful weeds and insects. Moreover, the new types of crops should have higher quality and yields, thus addressing the problem of food shortage, especially in the less developed regions of the world. Modified structure of such food will also be able to provide consumers with new features, such as beta-carotene in the golden rice by Ingo Potrykus.

The opponents of GM food usually express their concerns for the environment and human health. As the consequences of the GM crops cultivation are not known, they cannot be bred openly. Firstly, GM food is likely to cause new types of allergies and to create new toxins. Moreover, the use of bacteria genes and antibiotic-resistant genes can have unpredictable effect on the future development of numerous diseases. The next concern is the transfer of genes to other species, such as weeds, which would result in more resistant pests. Furthermore, the impact of new crops on flora and fauna cannot be predicted, therefore new GM crops may lead to the extinction of the existing species of animals and plants. Lastly, the use of GM crops may lead to monocultures, which provide farmers with high yields, but do not allow diversification and make them dependent on the products, provided by big corporations, which develop pesticides and GM crops. Therefore, the resulting benefits from GM food will not lead to an increase in farmers' welfare as much as it will augment the profits of the companies in the related industries.

In economic terms, GM food is a vivid example of a market failure. Although its benefits are apparent, the calculation of the net value for the society needs also to consider the hidden cost of the externalities, associated with the genetic modifications. Since externalities, such as potential health hazards and uncontrolled genes transfer, are not considered by many, GM crops are likely to be overproduced, according to the classical economic theory. Therefore, it is necessary to consider much more aspects, than just economic profit, when making a decision about GM food growth. This conclusion may be harsh for the developing world, where famine is the cause of numerous deaths, however, the use of GM crops may jeopardize the future of the next generations all over the world, therefore other methods should be sought to solve the problem of hunger. Otherwise, in some years we may discuss the consequences of genetic modification, just as today we discuss global warming, which was once also triggered by the desire to obtain higher gains through industrialization and by ignoring the cost for the environment.

## **Works Cited**

Nash, Madeleine. "Grains of Hope." AG BioTechInfonet. Time - Asia Edition, 7 February 2001.

Web. 3 Nov 2011. .

Radford, Tim. "A bluffer's guide: why genetic modification matters." guardian. co. uk. 16

February 1999: n. page. Web. 3 Nov. 2011.

.

Sakko, Kerry. "The Debate Over Genetically Modified Foods."

Actionbioscience. org. American

<https://assignbuster.com/gm-foods-essay-example/>

Institute of Biological Sciences, 2002. Web. 3 Nov 2011.

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