

Genetically modified organisms as a solution to world hunger



**ASSIGN
BUSTER**

Abstract

Scientists have found a new way to keep food's shelf life longer, reducing the amount of chemicals going into the crops, and reduce the area for growing crops. This involves technology and gene transferring. It is called GMO, also known as Genetically Modified Organism. GMO has the critics and consumers doubting of its safety on health and environment. Other critics feel that respond to world hunger by providing same nutritional benefit as non- GM foods. The purpose of this essay is to analyze the issue of GMO. Will it be dangerous to the world food supply or a response to world hunger?

Genetically Modified Organisms as a Solution to World Hunger

People have been so self-aware of what they eat. Eating nutritious and healthy food keeps the body moving smoothly. Today, many people have become vegan to keep their body in shape and well maintained. However, do they know what they have put in their body? Growing nutritious food is hard because insects, weeds, and weather would cause damages to the crops. To prevent that from happening, GMOs was created. GMOs are an organism that is modified, which means that the DNA was taken out of an organism and put into a plant or animal. Many debates have been going on whether GMOs are dangerous to the world food supply or is a response to world hunger.

Dangerousto World Food Supply

If world hunger hasn't existed, will GM crops still be created? GM crops have made a questionable impression on us. Genes are transferred from an organism to another, which means it gives the crops more nutrients. That <https://assignbuster.com/genetically-modified-organisms-as-a-solution-to-world-hunger/>

may sound awesome solution, but can it cause dangerous effect on humans and the environment? Since GM crops have been introduced in 1944, scientists have been collecting research on GM crops. Many scientists had found information that leads to believe GMO crops are hazardous. The health risks that associated with GM foods are toxicity, allergens, and genetic hazards. “ Consumers have expressed concerns, for example, that products form GMOs are unsafe or toxic” according to Kopicki (as cited by Sax and Doran, 2016). Due to the revealing of foreign genes inserted into the GM crops, it had created new allergen and toxin. This had caused consumers to doubt on GM crops. People are worried about what would happen when they consume the new allergens. Allergens in plants are being transferred into non-allergens. GM crops had also caused antibiotic- resistance. The GM crops will spread antibiotic resistance to plants and animals, which makes it difficult for scientists to find ways to fight it. “ One controversial issue in GM technology is the insertion of antibiotic resistance genes as natural makers. This approach is to ensure scientists that the target gene has been inserted into the cells” (Dadgarnejad, 2017). The plants with the new genes would be antibiotic resistant. GM evaluators are concerned that antibiotic- resistant genes will inhabitant bacteria in the gastrointestinal tract. Scientist tests on animals to make sure that everything to safe to consume. It turns out GM crops aren't safe. “ Many scientific data indicate that animals fed by GM crops have been harmed or even died, GM cottonseed and certain biotech corn showed complications including early deliveries, abortion, infertility and also may died” according to Maghari and Ardekani (as cited in Krimsky 2015). If we eat GMO foods, would we have problems like infertility or the possibility of death? Such plants like cotton produce pesticides which allow

<https://assignbuster.com/genetically-modified-organisms-as-a-solution-to-world-hunger/>

the cotton to kill the insect. Another issue that needs to be taken into account is the vegans. Since scientist test GM crops on animals, it leads to believe that they are abusing animals. Vegans don't want cause harm, death, and suffering to animals. Scientists are trying to deceive vegans that GM crops are vegan -friendly. Since GM food is one of a public concern, the government are trying to regulate GM foods.

Response to World Hunger

Developing countries like the US, for example, have fresh and healthy food. Also, have healthy choices like organics. What about Africa, India, and other countries? People suffered from malnutrition because they either don't have enough area to grow crops or the bad weather condition. A solution the government thought of was GMO. Using technology is a great way to control the problem. " Aggregation of benefits including low cost, improvement of nutrients in the same crops and the most important lowering mortality and malnutrition has made GM technology popular in some societies" according to Aerni P. (as cited by Dadgarnejad, 2017). GM crops would have nutrients that people need like vitamins A, C, E. Genetically modified food have more nutrients than non-GM crops. Rural areas aren't able to afford to water their crops and use insect killer. With the foods growing faster and reducing harmful chemicals, it would provide the population with more food. Since GM crops aren't exposed to harmful chemicals they are resistant to insects, which means less work to do. " Development of crops characterized with delayed ripening, resistance to insecticide, herbicide, drought, blackspot, viral disease, and fusarium infection are other positive outcomes of GM

technology” (Dadgarnejad, 2017). With the help of genetic engineering, it made a great improvement. Genetic engineering technology could solve world hunger. GM crops don't need a lot of acres of land, which can modify to drought resistant. Farmers use less water for GM crops, which makes easier to attend to and less time watering the plants. With the help of GM technology, foods will have longer shelf-life. People won't have to worry about finishing the perishable within a couple of days. “ Remote rural population can use their limited local agricultural resources to yield similar or higher yields, can transport the perishable to wholesales when the yield has higher shelf-life and access foods rich on specific nutrients irrespective of socio-economic strata” (Bongoni, 2016). It can stay fresh more than a week without losing its condition. This would also benefit the farmers because the crops wouldn't have gone bad before it goes to the markets and it wouldn't give them harvesting issues.

FDA Approval

In order to regulate GM crops, the FDA created a program in the 1990s called Plant Biotechnology Consultation Program to work with GE plants developers. It was to ensure that the food was lawful and free from harm of consumptions and for the safety of the environment. This program also helped FDA by collecting information and data about the GM crops. In 1992, FDA had recognized most GM foods are considered the same as non- GMO foods. FDA makes sure food are safe for humans and animals to consume, especially foods from GE plants. For GM crop to be sold in stores or distributed worldwide, the same health safety requirements as non- GMO food needs to be met. The FDA has passed the food law for GM food and <https://assignbuster.com/genetically-modified-organisms-as-a-solution-to-world-hunger/>

caused the questioning on GM crops. FDA had participated in expert advice process, and the food developer conducted a safety assessment. After the safety assessment completed, it was sent to FDA. The scientist at FDA looks over the assessment and everything looked good, so GM foods are safe.

Conclusion

GMO, not responds to the world hunger. FDA says it is safe, but it isn't. Yes, GM crops do have benefits that suggest it would help contribute to world food supply, but it is not a solution. GM foods have people concerning about health and environment risk. It is important to keep people healthy and safe. Genetically modified foods are produced all over the world. GMO is created to help fulfill the world hunger needs, but is it recommended?

References

- Bongoni, R. (2016). East versus west: Acceptance of GM foods by European and Asian consumers. *Nutrition and Food Science* , 46 (5), 628-636. <https://doi.org/10.1108/NFS-10-2015-0121>
- Dadgarnejad, M., Kouser, S., & Moslemi, M. (2017). Genetically modified foods: Promises, challenges and safety assessments. *SBMU* , 1-10. <https://doi.org/10.22037/afb.v4i4.17244>
- Krimsky, S. (2015). An illusory consensus behind GMO health assessment. *Sage* . <https://doi.org/10.1177/0162243915598381>
- Sax, K. J., & Doran, N. (2016). Food labeling and consumer associations with health, safety, and environment. *The Journal of Law* . <https://doi.org/10.1177/1073110516684805>