

Assessment of the environmental claims of genetically modified organisms literatu...

[Environment](#), [Animals](#)



Health Effects if Ingesting GMO'S

Genetically modified organisms have been evaluated in terms of the risks they pose to the environment over the past years. This has been done by comparing the dangers identified and exposed estimates to give a decision to the agencies that regulate these products. Assessing the harsh effects of a GMO on the environment remains one of the key controversies to decisions makers and institutions that assess risks as well as scientists. The Society of Toxicology is among the institutions that have dedicated their objectives to protect and improve health in humans, animals as well as the environment. They give their stand concerning genetically modified organisms as hazardous since the improvement of animals and microbial methods of developing crops leads to production of genetic modifications. The European Union (EU) is another organization that has over the years provided viable notifications on the assessment of genetically modified organisms (Nelson, p. 30). The focus of the paper will be discussing the effects of genetically modified organisms to the environment and the risks it poses on the health of animals, plants as well as the environment.

Despite all the allegations and claims from people and companies, the main issue still stands, is the adoption of GMO's food production a beneficial course? Well the is answer to this is that, to some extent it is but on the other hand people ought to consider the dangers and risks involved with this production. We should first consider the dangers that are associated to consumption and production of genetically modified organisms before resolving on increased production. According to a report given by one genetic engineer, Dr Michael Antoniou, genetically modified organisms or

rather crops for that matter are developed on the grounds of ambition. People tend to experiment a lot and GMO's is one of their experiments whether they are safe to eat and beneficial to the environment (Ruf, 2013, p. 76). They have been used to test whether these engineered crops can alleviate the problem of hunger in the world. The doctor claimed that the genetically modified crops have shown harmful effects on animals used for tests in the laboratory. On the many researches they have conducted, these crops have shown an immense increase in the use of pesticides and not yielded any increase. The report submitted by Dr Michael gives the alarming warning there are other ways in which the world can meet their needs for food but GMO's are not one of them.

In addition to this, other scientists, such as DR. John Fagan, have also written reports concerning the same issue. Dr Fagan wrote a report that said that genetically engineered crops would lead to creation of toxins and allergens in food which would affect the value of nutrition. In his report he also indicated that about 75% of the genetically modified crops are designed to resist herbicides sprayed on them (Aslaksen, 2006, p. 212). This in turn has led to the massive growth of weeds that resist herbicides. The impact of this according to Dr Fagan is that farmers and the community at large remain at risk as they are exposed to the toxic chemicals sprayed on these plants. These findings further proof that adoption of genetically modified organisms is not beneficial for the sustainability of agribusiness now or even in the future. Similarly, the more information provided from the report given by these two scientists in collaboration with others, shows that genetically engineered food products portrays unpredictable signs that they are not safe

(Andow, 2008, p. 51). They claim that application of this method can lead to spontaneous production of toxins and allergens in food that may not be noticed in today's regulatory check.

Another important aspect that should be considered during the assessment process of genetically modified organisms is health. Research shows that these engineered crops have not been sufficiently tested on humans.

However, some sources say that there are few tests that have been done but their findings bring causes of alarm to the world. Regulatory bodies have failed on the part of assessing these crops. Organizations such as the FDA in the United States does not carry out safety tests on the crops, they only take the assurance of the biotech companies and proclaim the substance substantially equivalent to non- modified organisms (Tamis 2009). Other companies such as the European Union do not necessarily carry out tests on these products before sending them to the market. They only commission the test and are the same beneficiaries from the profits earned after the genetically modified crops have been verified and approved. These regulatory bodies have not done long term toxicology on people and animals and use patent claims and laws on property protection to hinder access of independent researchers. In one instance there was a public health crisis that emerged in genetically modified soy that is produced in the southern regions of America. This incident showed people from these regions were exposed to harmful sprays and other Agrochemicals sprayed on the crops which resulted in an increased rate of birth defects and cases of cancer (Aslaksen, 2006, p. 219).

At one point or another we have all consumed crops and organisms that are

genetically modified. These foods range from the ingredients in crops meat from animals and so on. There are no instances that can show the harm caused by these substances, but we find them in other people especially children on how they sustain allergies from many substances or even the increased rate of growth that leads to obesity and other disorders. Many cancerous diseases can also be attributed to the effects of genetically modified food (Graef, 2012, p. 76). The effects may not be felt only through consumption of these foods but also through the air that we breathe and contact with the surrounding that is contaminated. The chemicals sprayed on these crops gets absorbed into the soil and later into the water we drink. These are the basic steps of the life cycle and these chemicals end up causing harm to our health in or another.

As the saying goes every coin has two sides. The same case applies to this issue. They're sources that claim that consumption of genetically modified organisms are safe for consumption. They claim that these crops have been tested more than any other crops starting from seeds with genetic modification and there is no credible evidence that they have caused harm to humans and animals. The government institutions in charge of regulating these crops claim that they are safe for consumption. Such institutions include the World Health Organization, the American Medical Association just to mention but a few (Deng 2008, p. 1420). They claim to have examined the evidence and thus came to a conclusion that consumption of food containing genetically modified traits are safe and no different from the consumption of those substances that have been conventionally modified through plant improvement techniques such as plant breeding. The bodies responsible for

ensuring that these biotech crops are safe to eat and safe for the environment claim that they have a standard policy on the evaluation of the safety of genetically modified foods.

One of the companies that lay their role in these bodies is Monsanto. It makes its submissions to the regulatory agencies in the countries they intend to sell their seeds that later approve the potential product before it can be sold to the consumers as animal feed. These activists for genetically modified organisms claim that they have benefited in one way or another. They claim that these organisms increase the farmers' yields and reduce the draw on fossil fuels and provide nutritional benefits. They also provide farmers with better ways of improving their yields under the pressure of weed and insects. The crops decrease tillage and protect the soil and water resources and reduce the application of pesticides (Kapuskincki, 2007, p. 45). The adoption of these genetically modified crops reduces use of fossil fuels. The aspects of decreased applications of insecticides on the crops are also beneficial to the farmers and environmentalists. A good example of certain genetically modified crops that are beneficial is the high oleic soybean oils in that they help in reduction of body fats. Research has shown that the substantial equivalence of genetically modified organisms has established the level of safety to consumers is to some extent equal to that of traditional foods. There are no cases of harsh health effects that have been reported although scientists maintain that there technology used at present may not detect the minor or rare effects.

There are instances of an increase in moderate common effects such as diarrhea that have been reported although scientists urge people not to

panic as they are working on the means and strategies that will help change the situation. An encouraging aspect about genetically modified organisms is that they have helped regions that are scarce for food. These regions have transformed and have their own food products at present (Tamis 2009, p. 593). This situation can help change the problem of hunger in the world and states will no longer donate to others. It is a form of transformation through technology that has helped improve the lives of many people. Through this ideology, genetically modified organisms can be termed as beneficial and sustainable for the future of agribusiness if only they would be proven safe enough for consumption with no effects. Scientist however have assured people that they will continue with the evolution of toxicological methodologies and the regulatory bodies will be necessary and should work in hand with them to ensure that the desired level of safety is maintained. When it comes to the matter of environment there is much to say about the effect of genetically modified organisms. This is because the GM crops have been noted to cause harsh effects to the soil through transfer of genes. Plants with genetically modified traits are usually herbicide resistant and therefore farmers end up using too much of the herbicides in order for the plants to absorb it. This however could be harmful in that the plants spread their resistance to other crops related to them (Schmidt 2005, p. 12). The main problem here is that there is no way of limiting the spread and there is no idea on how to effectively contain and segregate the transgenic of genetically modified crops.

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