

Example of argumentative essay on gmos are a health risk to american consumers

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Food containing genetically modified organisms or GMOs should be banned in the US. The reason for this is because GMOs pose a great risk to people consuming such products. GMOs are products of biotechnology which makes use of bacteria or viruses to penetrate the cells of plants and introduce genes that would make the plant more resistant to environmental conditions such as drought and insects. The injected toxins are said to be potent only to insects and pests but are safe for human. However, there is a growing doubt about the safety of GMOs. Examples of genetically modified products are seeds produced by the company Monsanto. These include common ingredients to the American staple cereals, such as corn and soy. This paper argues that GMOs are harmful to the health of the people and at least eight studies / articles support such argument. Details of these studies are presented in the sections below.

Scope and reach of GM crops

Commercial production of genetically-engineered crops began in the mid-1990s. In 2005, more than 8 million farmers in 27 countries were already growing genetically modified (GM) crops. The US was among the top five growers which also include Argentina, Brazil, Canada, and China. More than half of the total area planted with GM products are located in the US soil. Six years later, in 2011, the number of countries reached 29 and the area planted to commercial GM crops doubled. From 200 million acres in 2005 to 400 million acres in 2011. In the US, about “ 70 percent of its processed foods contain GE ingredients” (To Label, A359).

Toxins in GM crops

GM crops are a threat to human beings because the DNA of these plants are not anymore natural. These are altered to make them stronger in the midst of common farm conditions such as drought, pests, and insects. Without such threats, a bigger harvest is assured. Seeds may also be altered to make them produce bigger products and higher quantities. Thus, from the perspective of agricultural performance, GM crops means more yield and higher profits which can also be translated to better opportunities especially for countries who are having production problems. From a health perspective, however, the process of altering the crops and inserting viruses or bacteria pose the health risk.

The World Health Organization (WHO) has identified genetically modified foods as the second area of concern in food safety, (as the first one being contamination). In the article Genetically Modified Foods Breeding Uncertainty, the process of how genes are introduced into a plant was described. The example given was the pest-resistant varieties of Monsanto. The company made use of a gene from the bacterium *Bacillus thuringiensis* (Bt) to produce the Bt toxin. This toxin kills insects but the company says it is safe for human beings.

Effects of Roundup and Bt Corn on animals

The study by French scientists of 200 rats for a period of 2 years showed that the rats that were exposed to the Roundup herbicide and to genetically-modified corn, although just in low doses experienced negative effects in their health. In the study, the researchers made 54 kinds of comparisons

between the control and treated groups and in 50 of these comparisons, the treated group manifested worse results. The results indicate that the effect of GMOs on humans should not be negated and that there should be a need for further research (Longest-Running Study, 13).

Effects of toxins contained in GMOs on human reproductive cells

Studies have also been carried out to investigate the safety in the production and human consumption of products containing GMOs. One study looked into the effects of Roundup on pregnancy. Roundup is herbicide commonly used in the growing of GM crops. According to Richard et al., “ endocrine and toxic effects of Roundup can be found in mammals” (716).

The researchers tested the chemicals Roundup and glyphosate at levels that are substantially lower than the suggested agriculture usage and their findings show that immediately after only 18 hours there were already noticeable negative effects on placental cells of human beings. Roundup is a chemical that can assist cell penetration and the dilution of glyphosphate in Roundup is said to multiply the endocrine effects. Thus, Richard et al. has concluded that exposure to these chemicals, even below the usual agricultural doses, would result in problems of reproduction (720).

GM crops banned in other countries

European countries have banned the growing of genetically-modified corn produced by Monsanto known as MON 810 because of it presents a “ serious risks to the environment” (Mayer-Hohdahl and Byrne, n. p.). This corn variety used as animal feed was banned in Austria, Germany, Greece, Hungary and

Luxembourg, and France since 2008. Although the EU lifted the ban in France, it was not clear if other countries would also lift their bans as well.

The right to know

Consumers have the right to know whether the food they are eating have GMOs. This is the advocacy of people's groups such as GMO Inside, a coalition of organizations and business that are calling for " a healthy, GMO-free food system" (Fresh Start). In California, there is a proposed bill entitled the " California Right to Know Genetically Engineered Food Act" which is also called Proposition 37. This law shall " require all raw food products containing GMOs to be labeled as genetically-engineered and processed foods containing GMOs be labeled as partially produced with genetic engineering or may be partially produced with genetic engineering." When approved, these measures shall take effect in July 2014.

Conclusions

In the US, the consumers are taking an active role in their health. What people take into their bodies would definitely have an effect on their physical and mental health. Thus, it is very important that the right to health of every individual be given due recognition. It is the right of every consumer to know not only what is inside their food but also how these food have been processed before these reach the dinner table. Studies have shown GMOs affect one's health. It is time that the US too, bans GMOs from its soil.

Annotated Bibliography

“ Genetically Modified Foods Breeding Uncertainty.” Environmental Health Perspectives. 113. 8 (2005): 526-533. Web. 15 Nov. 2013.

Presents data and map about the global scope and location of GM crops.

Explains about the processes involved in producing GM crops such as how Bt toxin resulted from the bacterium *Bacillus thuringiensis* (Bt), the chemical that kills insects but considered by the Monsanto company as safe for human beings.

de Vendômois, Joël Spiroux, Dominique Cellier, Chris tian Vélot, Emilie Clair, Robin Mesnage and Gilles-Eric Séralini. “ Debate on GMOs Health Risks after Statistical Findings in Regulatory Tests.” International Journal of Biological Sciences 6. 6 (2010): 590-598. Web. 15 Nov. 2013.

This study identified the main points discussed in the international arena on the debate regarding the health risks of commercialized edible GMOs. Since these crops, mainly corn, soy, and oilseed have been altered to become tolerant to herbicides such as Roundup, then these would have residues of new pesticides or have generated mutated Bt toxins. The researchers looked into corn varieties NK 603, MON 810, and MON 863 and they suggested that there is a need for further testing especially since these varieties have shown possible effects on liver and renal functions.

“ Fresh Start For 2013 - National Coalition Calls On US Cereal Giants To Take GMOs Out Of Our Breakfasts.” PR Newswire US. 17 January, 2013. Web. 15 Nov. 2013.

The organization GMO Inside issues a statement for companies like Kellogg’s and General Mills to do one of two things on their products. They should

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either (a) label these stating that these contain GMOs; or (b) remove the GMO ingredient in their products. They should do this to be consistent with their companies' image of being wholesome and healthy.

“ Longest -Running GMO Study Finds Tumors in Rats.” Mother Earth News. April 1, 2013. Print.

The study by French scientists of 200 rats for a period of 2 years showed that the rats that were exposed to the Roundup herbicide and to genetically-modified corn, although just in low doses experienced negative effects in their health. In the study, the researchers made 54 kinds of comparisons between the control and treated groups and in 50 of these comparisons, the treated group manifested worse results. The results indicate that the effect of GMOs on humans should not be negated and that there should be a need for further research.

Marris, Claire. “ Public views on GMOS: deconstructing the myths.” European Molecular Biology Organization reports 2. 7(2001): 545-548. Web. 15 Nov. 2013.

Results of focused group discussions in various countries of Europe showed that participants hold on to different myths about GMOs and there is a need for a greater understanding and communication about the issue. As the focused group discussions were done from 1998 to 1999, the level of awareness of consumers about GMOs would not anymore represent the present decade.

Mayer-Hohdahl, Alexandra and Clare Byrne. “ EU court deals blow to French ban on Monsanto GM maize.” Deutsche Presse-Agentur, Sep 08, 2011. Web. 15 Nov. 2013.

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Austria, Germany, Greece, Hungary and Luxembourg, and France have banned the growing of genetically-modified corn produced by Monsanto known as MON 810. This corn variety used as animal feed was banned in since 2008 because it presents a serious risks to the environment.

Richard, Sophie, Safa Moslemi, Herbert Sipahutar, Nora Benachour, and Gilles-Eric Seralini. " Differential Effects of Glyphosate and Roundup on Human Placental Cells and Aromatase." *Environmental Health Perspectives*. 113. 6 (2005): 716-720. Web. 15 Nov. 2013.

The researchers tested the chemicals Roundup and glyphosate at levels that are substantially lower than the suggested agriculture usage and their findings show that immediately after only 18 hours there were already noticeable negative effects on placental cells of human beings. Roundup is a chemical that can assist cell penetration and the dilution of glyphosphate in Roundup is said to multiply the endocrine effects. Exposure to these chemicals, even below the usual agricultural doses, would result in problems of reproduction.

" To Label or Not to Label: California Prepares to Vote on Genetically Engineered Foods." *Environmental Health Perspectives*. 120. 9 (2012): A358-361. Web. 15 Nov. 2013.

The proposed bill entitled the " California Right to Know Genetically Engineered Food Act" which is also called Proposition 37 " require all raw food products containing GMOs to be labeled as genetically-engineered and processed foods containing GMOs be labeled as partially produced with genetic engineering or may be partially produced with genetic engineering." When approved, these measures shall take effect in July 2014.