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Viewpoint

Genetically Modified Food Products: Advantages And Hazards

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The term “modified organisms” refers to a new class of living organisms created by scientists using genetic engineering techniques. These organisms have applications in a variety of fields, including medicine, the pharmaceutical industry, and food production. Transgenic food products became a contentious issue after being introduced to the market, with both proponents and opponents. The ability to improve the global food supply, boost crop yields, improve the nutritional value of food, and create medicinal formulations with established clinical importance all support the genetic alteration of plants and animals. However, transgenic food may negatively impact consumer health. As a result, the short and long term negative effects, such as gastrointestinal allergies, the creation of toxic chemicals, or antibiotic resistance, received special attention. We, therefore, need to systemize the potential advantages and risks associated with eating transgenic food. Various research articles were reviewed to understand the advantages and hazards of consuming Genetically Modified Food (GMF) products. It was found that a potato was successfully cultivated in which the Bt gene, isolated from *Bacillus thuringiensis bacteria,* conditioning resistance to potato beetle, allowed an increase in the potato crop. The same resistance gene was used for the transgenes of maize. It exerts no negative influence on the health of humans and animals consuming the plants, but the maize became resistant to corn borer (*Pyraustamirilabilis)* while its commercial variety was admitted to cultivation worldwide. Genetically modified rice has higher content of beta-carotene and higher iron bioavailability. Genetically Modified tomato has higher content of dry matter, virus resistance and delayed ripening process. Some of the findings indicate that the potential risks linked to GMF are that it induces the anxiety of the consumers by the effects of genetic modifications. The transfer of genes from the cells of one organism to the cell nuclei of another

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organism results in the expression and synthesis of new proteins. The amino acid sequence forming structure of a given protein possesses the main risk of food allergy development due to exposure to transgenic food. Thus, even though there are advantages, in the long run these Genetically Modified Food Products may permanently cause life threatening hazards, thus requiring a serious discussion.

Keywords: Genetically modified organisms, transgenic food, *Bacillus thuringiensis*, *Pyraustamirilabilis,* iron bioavailability.

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