



Study of Genetically Modified Organisms like Disease-Resistant Plants and Medically Important Products

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DESCRIPTION

The goal of gene therapy is to change genes so that genetic defects can be fixed and genetic diseases can be avoided or treated. The goal of genetic engineering is to change genes so that an organism can do more than it can normally. A genetically modified organism, or GMO, is an organism that has been created through genetic engineering. This type of modification is known as Genetic Modification (GM). Herbert Boyer and Stanley Cohen created the first Genetically Modified Organism (GMO). When Rudolf Jaenisch inserted foreign DNA into a mouse in 1974, he created the first GM animal. Genentech, the first company to concentrate on genetic engineering, began producing human proteins. Human insulin that had been genetically modified was made in and insulin-producing bacteria were made available. Since the Flavr Savr tomato was introduced and genetically modified foods have been available for purchase. The Flavr Savr was designed to have a longer shelf life, but the majority of today's GM crops are altered to increase insect and herbicide resistance. GloFish, the first GMO designed for pets, was sold in the United States. Growth hormone-modified salmon were also introduced later using this genetic engineering technology. Numerous fields, including research, medicine, industrial biotechnology, and agriculture, have utilized genetic engineering. Through loss of function, gain of function, tracking, and expression experiments, GMOs are used in research to investigate gene function and expression. Since its early use, this has been there. Anti-GM activists destroyed the initial field trials. Even though scientists agree that food derived from GM crops does not pose a greater risk to human health than conventional food, GM food safety is a major concern for critics. The control of the food supply, gene flow, impact on non-target organisms, and

intellectual property rights have also been mentioned as potential issues. It has resulted in the adoption of a global agreement in the form of the Cartagena Protocol on Biosafety. The United States of America and Europe have the most markedly different regulatory systems for GMOs than any other nation. The term genetic engineering initially referred to various techniques used for the modification or manipulation of organisms through the processes of heredity and reproduction. Animal model organisms of human diseases can be created by deleting genes that are associated with particular conditions. Through gene therapy, genetic engineering has the potential to cure genetic diseases in addition to producing hormones, vaccines, and other medications. The artificial manipulation, modification, and recombination of DNA or other nucleic acid molecules for the purpose of altering an organism or population of organisms is known as genetic engineering. Methods of recombinant DNA technology, which emerged from basic research in microbial genetics, are typically referred to as "genetic engineering." Genetically modified organisms like disease-resistant plants and medically important products like human insulin, human growth hormone, and the hepatitis B vaccine have emerged as a result of genetic engineering techniques. The production of enzymes for laundry detergent, cheese, and other products can all be made using the same methods that are used to make drugs.

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CONFLICT OF INTEREST

The author's declared that they have no conflict of interest.

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