

**МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РФ
ТОМСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
БИОЛОГИЧЕСКИЙ ИНСТИТУТ**

СТАРТ В НАУКУ

МАТЕРИАЛЫ

**LXX научной студенческой конференции
Биологического института**

Томск, 26–30 апреля 2021 г.

**Томск
2021**

CONTROVERSY OVER GMO: SCIENCE VS BIAS

A.V. Chekunkova, A.N. Lavrenyuk
ms.oleandrina@mail.ru, lina.lavrenyuk.02@gmail.com

No doubt genetically modified organisms have a notoriously bad reputation in the whole world. The creation of genetically modified food is now the most important and most controversial task. The production of genetically modified products is the most important achievement of modern science. It was hard to imagine that the implementation of these and many other technologies would face not just technical problems, but rather misunderstanding and rejection in society.

A genetically modified organism is the result of genetic engineering technologies that allow the DNA genes of one organism to be inserted into another. Microorganisms, viruses, plants, animals, and even humans are used for that purpose.

Many people mistakenly assume that GMOs are just food. It is a broader concept. More durable fabric can be created with GMOs. Recently, silk has been improved in Japan by altering the genome of the silkworm. Silk has become stronger and more elastic than usually, it is better suited for creating surgical sutures. The Canadian firm Nexia bred goats with a cobweb protein gene inserted into their genome and showed that the milk of these goats can be used as raw materials for a material called bioSteel. BioSteel turned out to be stronger and lighter than Kevlar - the material from which modern body armor is made. Hypoallergenic pets for allergy sufferers can be genetically engineered. Genetic engineering has found application even in contemporary art. For example, there is a technology called DNA origami, when molecules combine, and in a strictly defined way, forming nanostructures of a pre-selected shape. It can be an asterisk, triangle, letter of the alphabet, or even an emotion.

Genetic engineering is already being applied in a wide variety of areas of human life - from art and entertainment to the treatment of hereditary diseases, as well as in basic scientific research. But the central topic of the public and political debate associated with genetic engineering is the use of genetically modified organisms for food.

Academic advisor – senior lecturer E.A. Melnikova