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USING GMOS IN FOOD PRODUCTION

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Abstract: This article summarizes the results of laboratory studies conducted in animals on the effects of genetically modified products by many scientists, and on this basis provides opinions and comments on the pros and cons of genetic modification. It was also noted that a large-scale study should be conducted in this regard in our country.

Key words: genetic modification, genetic engineering, genes, genetics, branding, ecology, eco-friendly products, food safety.

Relevance of the topic. It is known that one of the global problems of today is the growing demand for food in proportion to the growth of the world's population. Solving this problem, in turn, requires the use of new technologies in the cultivation, processing and storage of food. One such method is the use of genetic engineering in the cultivation of plant and animal products. GMOs are obtained using genetic engineering. In this case, a foreign gene is introduced into the genome of the organism.

Mankind has always strived for perfection. Experiments on the cultivation of plants began in the eighth millennium BC, and biotechnology was first used in the production of bread, beer, and cheese products four thousand years before Christ.

Genetic modification of plants began in 1977 with the use of soil microorganism Agrobacterium tumesacitns as a tool (vector) in the transfer of potential foreign genes to other plants. Field testing of genetically modified agricultural products began in 1987 with the development of virus-resistant tomato varieties. Since 1993, genetically modified products have been on sale.

Nowadays, genetically modified crops are grown in much of Europe, in countries such as the United States, Brazil, Argentina, India, Canada and China. In these countries, soybeans, corn, sugar beets, rice are often grown by genetic modification. High-ranking government agencies, in particular the U.S. and European Commission Food and Drug Administration, the Food Standards Agency of Australia and New Zealand, and reputable scientific organizations have also positively assessed the cultivation of genetically modified crops for human life.

considered safe IA Kuznetsov (2015), V. Lebedev (2003). In general, today genetically modified agricultural crops are grown in more than 20 countries around the world and have an area of 80 million hectares. more than a hectare.

Since the field of genetic engineering is not widely popular, it is natural that it generates different attitudes from the public. In most cases, there is an attitude by the population towards genetic modification and consumption of such products. The public's negative attitude towards the use of modified products can be explained by the lack of normative documents regulating the production and consumption of genetically modified products in most countries, as well as consumers' lack of any scientifically based information about genetically modified products and their future impact on the human body.

A few years ago, the European Commission officially acknowledged that it had no information about the long-term effects of genetically modified products on the human and animal body, and that none of the experts could guarantee the safety of consumption of genetically modified products. It is predicted that even after several years, the consumption of genetically modified products can lead to adverse events. Many experts explain the prevalence of allergies in the United States and the fact that one in four people suffers from various forms of it by consuming genetically modified products. However, it is impossible to ignore the results of scientific research in this area in recent years.

In experimental studies conducted by German scientists with mice in the laboratory, it was found that foreign genes can be embedded in the internal organs of animals. Italian scientists conducted a series of experimental studies and found that genetically modified soy can have a negative effect on the liver and other internal organs of mice. In Russia, I.V. Ermakov (2006), D. Quist., I. Chapela (2001), A. Coghlan (2002) found that modified shadows have a negative impact on the health of adult animals and cause poor internal development of children.

Laboratory studies with genetically modified potatoes at the Institute of Nutrition of the Russian Academy of Medical Sciences (RAMN) show that consumption of genetically modified products can worsen blood composition and cause pathological changes in internal organs. Similarly, genetically modified corn has been shown to cause significant internal organ damage and worsen blood composition.

The position of the Republic of Uzbekistan on this issue was clearly expressed by the first President of our country IA Karimov at the opening ceremony of the international conference "Important resources for the implementation of the food

program in Uzbekistan" on June 6, 2014 in Tashkent. traditional vegetable and horticultural culture has long been based on the principles of biological farming, which involves the use of local fertilizers. This allows the cultivation of environmentally friendly fruits and vegetables with very tasty taste and consumption characteristics without the use of genetic modification technologies. The same issue can be addressed separately, but this topic is very relevant in the world, and there are different, sometimes even contradictory opinions about it. In my opinion, gene modification technologies are generally well-intentioned, i.e., aimed at increasing productivity. But until it is clearly proven that such technologies do not harm human health and do not cause negative consequences after ten or twenty years, I would advise those who are now actively engaged in this issue not to be too devoted to this work. In doing so, I think, first and foremost, commercial, even selfish goals often prevail. My personal opinion is that this issue should be considered in depth. " In his speeches, the President of the Republic of Uzbekistan Sh.M.Mirziyoev reiterated that today the production of environmentally friendly food products that do not harm human health is an important task.

It is known that one of the basic rights of a consumer is the right to receive complete and accurate information about the goods and services he buys. These rights of consumers are also reflected in the relevant laws. This type of data can include data indicating whether the food purchased contains genetically modified raw materials. But there are different approaches in the world to labeling products that contain genetically modified raw materials. For example, the label of food products containing genetically modified raw materials does not contain information about this in the United States, Canada and Argentina. In the countries of the European Union, data on genetically modified raw materials are provided only if the amount of genetically modified raw materials in food products exceeds 0.9%, and in Japan and Australia - more than 5%.

In today's era of globalization and intensification of trade, no country can guarantee the complete ecological purity of food products and their sale without genetically modified raw materials. For this reason, it is advisable for the consumer to know what quality food products he is buying and to be interested in the information on the packaging of the goods. As mentioned above, if the goods contain genetically modified raw materials in accordance with the relevant requirements, then the packaging of the goods must contain information about it. It is up to the buyer to decide whether or not to purchase such a good. This shows that every

consumer is not indifferent to their health and is considered to have contributed, albeit indirectly, to the production and sale of environmentally friendly products.

The bottom line is that each of us needs to be attentive to the changes taking place around us, to read my face, to be aware of the news, and to realize that maintaining our unique health is in many ways dependent on us. In this way, we will make a significant contribution to the prosperity and development of our independent country, at least with these qualities.

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