

THE STATUS OF GENETICALLY MODIFIED PRODUCTS IN UZBEKISTAN

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Abstract: *Genetically modified (GM) products have been a topic of considerable debate and discussion globally, with varying perspectives on their safety, efficacy, and impact on the environment. Uzbekistan, a landlocked country in Central Asia, has also been navigating the complexities surrounding the use and regulation of genetically modified organisms (GMOs). This article aims to provide a comprehensive overview of the current status of genetically modified products in Uzbekistan, examining the regulatory framework, agricultural practices, public perception, and potential future developments.*

Key words: *potential future, agriculture, economic benefits, GM technology, engineering, genetically modified.*

Uzbekistan, known for its rich cultural heritage and diverse landscapes, has been experiencing significant shifts in its agricultural practices over the years. The introduction of genetically modified products has been a part of this transformation, raising important questions about food security, economic sustainability, and environmental conservation. This article delves into the multifaceted aspects of genetically modified products in Uzbekistan, exploring both the promises and challenges associated with their adoption. Historical Context of GM Products in Uzbekistan:

To understand the present scenario, it is crucial to examine the historical context of genetically modified products in Uzbekistan. The introduction of GM crops began in the early 2000s, primarily with cotton – a key cash crop for the country. The goal was to enhance crop yields, resist pests, and improve overall agricultural productivity. However, the initial experiences were met with a range of challenges, including concerns about environmental impact, biodiversity loss, and the potential consequences for human health.

Regulatory Landscape: The regulation of genetically modified products is a complex and dynamic process, involving multiple stakeholders, scientific experts, and policymakers. In Uzbekistan, the State Committee for Biosafety, under the Ministry of Agriculture and Water Resources, plays a pivotal role in overseeing the introduction and use of GM crops. The regulatory framework aims to ensure the safety of GM products for both human consumption and the environment. This section will explore the key elements of Uzbekistan's regulatory framework, including the approval process for GM crops, monitoring mechanisms, and the role of scientific institutions in evaluating the safety and efficacy of genetically modified organisms.

Agricultural Practices and GM Crop Adoption: The adoption of genetically modified crops has been more pronounced in certain sectors of Uzbekistan's agriculture. Cotton, a major export commodity, has seen significant use of GM varieties. This section will delve into the reasons behind the preference for GM cotton, examining the economic benefits for farmers, the impact on crop yields, and the challenges faced in integrating GM crops into traditional agricultural practices.

Furthermore, the article will explore the potential expansion of GM technology to other crops, such as corn and soybeans, and the implications for crop diversification and food security in the country.

Environmental and Social Impact: The introduction of genetically modified products inevitably raises questions about their impact on the environment and society. This section will assess the environmental consequences of GM crop cultivation, including the potential for increased pesticide use, soil degradation, and effects on non-target organisms. Additionally, the social aspects of GM crop adoption, such as the impact on traditional farming communities, will be explored. The discussion will also touch upon the global debate surrounding the use of genetically modified organisms, considering both scientific evidence and public perception. Comparisons with other countries that have embraced or rejected GM crops will be drawn to provide a broader context for the analysis.

Public Perception and Awareness: Public perception plays a crucial role in shaping the trajectory of genetically modified products in any country. This section will examine the level of awareness and understanding of GM technology among the Uzbek population. It will explore public attitudes towards genetically modified products, considering factors such as cultural beliefs, education, and access to information. The role of media, advocacy groups, and educational institutions in shaping public opinion on GM products will also be discussed, along with potential strategies for fostering informed public discourse on the subject.

Challenges and Controversies: The integration of genetically modified products into Uzbekistan's agricultural landscape has not been without challenges and controversies. This section will address key issues such as:

a. **Trade and Market Access:** The potential impact of GM crops on international trade agreements and market access for Uzbekistan's agricultural products.

b. **Coexistence with Conventional and Organic Farming:** The challenges of ensuring the coexistence of GM crops with conventional and organic farming practices to prevent genetic contamination.

c. **Long-term Environmental Effects:** Assessing the potential long-term environmental consequences of widespread GM crop cultivation.

d. **Ethical Considerations:** Examining the ethical dimensions of genetic modification, including issues related to corporate control over seeds, farmer autonomy, and potential exploitation.

Future Prospects and Research Directions: Looking ahead, this section will explore potential future developments in the field of genetically modified products in Uzbekistan. It will consider emerging technologies,

advancements in genetic engineering, and the role of research and development in shaping the next generation of GM crops. The article will also discuss the importance of ongoing scientific research in addressing safety concerns and optimizing the benefits of GM technology.

In conclusion, the status of genetically modified products in Uzbekistan reflects a complex interplay of economic, environmental, social, and regulatory factors. The country stands at a critical juncture in determining the path it will take with regards to GM technology. This article has aimed to provide a comprehensive analysis of the current landscape, challenges, and potential future trajectories of genetically modified products in Uzbekistan. As the nation continues to navigate these complexities, informed decision-making and inclusive dialogue among stakeholders will be crucial in shaping a sustainable and resilient agricultural future.

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