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INNOVATIVE DEVELOPMENT OF AGRICULTURE

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Abstract

The paper examines the features of innovation processes in agriculture. The implementation of innovative projects should become a priority area for the development of agriculture. The introduction of innovative technologies in agriculture is the only effective scenario for the development of this industry.

Keywords: agriculture, innovation, innovative processes, innovative development.

A distinctive feature of the current stage of development in all sectors and areas of agro-industrial production is the need to accelerate scientific and technological progress through innovative processes that enable the continuous modernization of production based on the adoption of achievements in science, technology, and best practices. Global experience shows that innovation processes are generally not only encouraged but also regulated by the state through the development of appropriate policies and the systematic organization of innovation activities. The high level of complexity of agricultural production as a system, along with the specific characteristics of the innovation process within it, determines the uniqueness of the approaches and methods used for its implementation. For the successful innovative development of agriculture, it is necessary to combine government support measures aimed at stimulating proposals for the implementation of innovations with measures that promote the innovative technological advancement of the sector¹.

In the republic, in 2024, 9 million tons of grain, over 3 million tons of cotton, and more than 16 million tons of vegetables and melons were cultivated. The harvest of fruits and grapes amounted to 5 million tons, and potatoes—4 million tons. Over 15 million tons of meat and milk were produced, as well as 30 thousand tons of

¹Galimova F.R., Yakubov F.K. Development of innovative processes in agriculture of Uzbekistan. <https://cyberleninka.ru/article/n/razvitie-innovatsionnyh-protsessov-v-selskom-hozyaystve-uzbekistana>.



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silkworm cocoons. A key role in achieving these results was played by the implementation of innovative technologies and scientific developments, particularly the cultivation of high-yield, drought-and disease-resistant agricultural crop varieties. In addition, the irrigation system was optimized, which made it possible to reduce water consumption and increase production efficiency.

In the past year, approximately \$1.4 billion in concessional loans and nearly \$13.6 million in equivalent subsidies were allocated to support agricultural producers. The supply of 11,600 units of modern agricultural machinery and equipment, with a total value of about \$278 million, ensured the successful completion of the agricultural season. Alongside the demand for modern agrotechnologies, plant breeding, and fertilizers, the following areas remain relevant²:

1. The high domestic consumption of off-season vegetables, as well as the demand for flowers and related plants, requires large volumes of greenhouse production. At the same time, there is significant demand for modern solutions in the field of energy-efficient and energy-saving technologies.
2. Agriculture in Uzbekistan, as a country with a low annual rainfall, is based on irrigation. Under conditions of water scarcity for irrigation, there is a strong demand for technologies for the secondary treatment of wastewater for use in the agricultural sector, filtration equipment, and water-saving technologies—primarily, drip irrigation systems.
3. In the hot climate, the storage of agricultural crops and livestock products becomes especially important—industrial refrigeration systems, packaging technologies, and materials are essential, which also contributes to increasing export volumes.
4. The arid climate, soil salinity, insects, and other pests also affect the volume of agricultural production. In this context, modern agro- and biotechnologies for crop protection and yield improvement become extremely important.

Recognizing the effectiveness and high importance of innovations for the agricultural sector, it should be noted that the transition to accelerated development of innovation activities requires the establishment of an effective economic

²Agro-industrial complex of Uzbekistan results of 2024. <https://agroworld.uz/ru/novosti>.



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mechanism and state regulation. A lack of investment, scientific collaboration, qualified personnel, and low motivation, as well as the absence of effective mechanisms for interaction between the state and the entrepreneurial sector of the economy, are common factors that hinder innovation activity.

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