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INNOVATIVE ACTIVITIES IN AGRICULTURAL PRODUCTION OF UZBEKISTAN

Abstract. Currently, a new paradigm for the development of the world economy based on the use of innovations is being formed. The Republic of Uzbekistan cannot ignore these processes and must ensure the activation of innovative processes in all spheres of the national economy, including agriculture. The transition to an innovative type of development is due not only to the need to solve the accumulated problems in the agricultural sector of the economy of Uzbekistan, but also to the tasks facing this industry. This article provides data on the intensification of the agricultural sector, ways to improve the quality of agricultural products.

Key words. *Innovative activity, quality of agricultural products, intensification, modification, new varieties, breeding work.*

Innovative activity in modern conditions is the main factor in the development of agriculture, the maximum use of which in our country is the only way to ensure the sustainable development of the agro-industrial complex. In the context of the growing dynamism of socio-economic changes and the increasing pressure of the world economy, our country must, as soon as possible, make an accelerated transition to an innovative way of developing agriculture, restore this strategically important sector of the economy on a qualitatively new technical and technological basis that meets modern trends.

Otherwise, our agricultural sector will hopelessly lag behind and finally lose competitiveness.[1].

In the Republic of Uzbekistan in recent years, large-scale work has been carried out to implement an innovative model of agriculture. The ongoing work on the diversification of agriculture, the efficient use of land and water resources, the use of modern and intensive technologies are yielding good results. Rational use of sown areas, including the use of repeated intermediate crops, clustering of agricultural enterprises, strengthening the material and technical infrastructure of agricultural producers, the introduction of advanced and innovative technologies in the agro-industrial complex, allow agricultural producers of the republic to provide their products not only to the domestic market, but also to sell part of the resulting products for export, mostly to the Russian Federation. Due to the reduction of low-yield lands previously used for growing cotton and wheat, the areas of fruit and vegetable crops, including potatoes, vegetables, fodder, oilseeds, intensive orchards and vineyards, which are in high demand in the domestic and world markets, are expanding. Republic began growing such non-traditional crops as saffron and soybeans. In 2020, the growth in agricultural production compared to 2019 amounted to 103.5%, the cost of production amounted to 49 trillion soums (1.6 trillion soums more). Traditionally, the cotton industry is of great importance in the agro-industrial complex. About 3.0 million tons of raw cotton are produced annually in the republic, from which about 1 million tons of cotton fiber are produced. In view of the further optimization of sown areas aimed at reducing the area under cotton, it is very important to maintain the existing volumes of cotton fiber production, which are so necessary to provide the textile industry with raw materials. One of the components of maintaining the production of cotton fiber in the same volumes is to support research on the creation of new competitive varieties of cotton, including using the achievements of genetic engineering. New breeding varieties should not only be high-yielding, but also have high

[1] https://moluch.ru/archive/110/26275/

quality indicators and fiber yield. The country's leadership provides all-round support for research by originator institutes that are engaged in breeding work to develop domestic cotton varieties with a given yield, the best fiber quality and spinning characteristics, increased fiber yield and seed oil content.

Conducted surveys of consumers of Uzbek fiber allow to improve the system of placement of the most popular selection varieties of cotton. Measures to improve breeding work, zoning of cotton varieties that are extremely in demand on the world market, together with the improvement of the technology for preparing sowing seeds and primary processing of cotton, contributed to improving the quality and range of cotton fiber.

New varieties created by Uzbek scientists have successfully passed large-scale tests in 13 different soil and climatic conditions of Uzbekistan. Field tests have shown the superiority of these varieties over any traditional varieties both in fiber quality, adaptation to the harsh environmental conditions of Uzbekistan, and in early maturity and yield. The new Porlock cotton varieties are the world's first biotech cotton varieties with improved fiber quality and other agronomically important traits. It is also the world's first successful field trial of cotton varieties produced using gene knockout technology. The modern cotton varieties of the Porlock series have shown a huge advantage of genetically engineered varieties over any traditional varieties in terms of fiber quality (codes 38-41 versus codes 35-36 for conventional varieties). In addition, superiority is evidenced by adaptation to the harsh environmental conditions of Uzbekistan (drought, salinity and heat stress), early maturity (5-10 days earlier) and an increase in the yield of raw cotton (at least 10-18%) or cotton fiber. (more than 1000 kg per hectare versus 800 kg/ha for common varieties of Uzbekistan). The new varieties produce more seeds with a 25-30% increase in 1000 seed weight, which provides an opportunity to increase food and feed. To this end, the farms of Uzbekistan are actively working on the widespread introduction of water-saving technologies. These technologies include: drip irrigation, sprinkling, mobile irrigation trays, pipelines, etc. Despite the fact that water-saving

technologies require additional and sometimes large investments, the analysis of the effectiveness of their application has shown that these innovations are self-sustaining and cost-effective. The advantages of water-saving technologies are not only that they can reduce irrigation water consumption by up to 65 percent, but also lead to an increase in crop yields and labor productivity, significantly reduce the cost of fuel and lubricants, mineral fertilizers, and ultimately increase the income of farmers. Currently, water-saving technologies have been introduced on an area of about 240,000 hectares, including drip irrigation technology on 28,000 hectares of land. In order to stimulate the introduction of drip irrigation systems and other water-saving technologies, tax incentives are provided to farms by the state. In particular, they are exempted from paying land and other types of taxes for a period of five years. When sowing cotton seeds, precision seeders are increasingly being used.

Only the creation of favorable institutional conditions for the intensification of the innovation process and the revitalization of the economic activity of agricultural enterprises will improve the quality and competitiveness of domestic agricultural products, bring the agricultural sector of the economy on the path of sustainable and effective development.

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