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ORGANIZATION OF MODERN INNOVATIVE AND RESOURCE-SAVING SEED GROWING OF GRAIN AND OILSEED FORAGE CROPS

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Аннотация:в статье рассматриваются особенности организации семеноводства зерновых и масличных кормовых культур в условиях Бухарской области. Акцент сделан на внедрение инновационных, ресурсосберегающих и адаптивных агротехнологий, направленных на повышение эффективности производства и качества семенного материала. Обобщен региональный опыт, представлены предложения по развитию селекционно-семеноводческой базы и совершенствованию организационно-экономических механизмов в агросекторе области.

Ключевые слова: семеноводство, Бухарская область, инновации, ресурсосбережение, зерновые культуры, масличные культуры, кормовое производство, устойчивое сельское хозяйство.

Abstract: the article examines the features of the organization of seed production of grain and oilseed forage crops in the Bukhara region. The emphasis is on the introduction of innovative, resource-saving and adaptive agricultural technologies aimed at increasing the efficiency of production and the quality of seed material. Regional experience is summarized, proposals are presented for the development of the selection and seed production base and the improvement of organizational and economic mechanisms in the agricultural sector of the region.

Key words: seed production, Bukhara region, innovations, resource conservation, grain crops, oilseeds, forage production, sustainable agriculture.

Bukhara region is one of the important agricultural regions of the Republic of Uzbekistan, possessing significant potential for the development of crop production, including feed production. The conditions of the region are characterized by a hot climate, limited water resources and high requirements for varieties of agricultural crops. In these conditions, the organization of modern seed production based on scientific approaches, innovations and principles of resource conservation is of particular importance.

Soil and climatic conditions of the Bukhara region require the use of adapted varieties of grain crops such as wheat, barley and oilseeds safflower, sunflower, resistant to drought and

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salinity. Crops such as Sudan grass, alfalfa, sorghum are being developed for the forage base. However, there is a shortage of high-quality seed material, especially domestic selection, adapted to the extreme conditions of the region.

The development of seed production in the region should be inextricably linked with the introduction of: precision farming, allowing for the rational use of resources (water, fertilizers); biotechnological methods, including molecular diagnostics of seeds; digital monitoring of the quality of seed material; automated sorting and cleaning of seeds, which is especially important for small farms.

The use of agro-innovative platforms and experimental demonstration plots based on scientific stations, including in the Bukhara region, can significantly increase the efficiency of seed production.

The following resource-saving measures are especially important for the conditions of the Bukhara region: simplified sowing technologies (minimum soil tillage); drip irrigation in experimental farms when growing seed plots; rational use of plant protection products and fertilizers; storage of seeds in adapted conditions with minimal costs for ventilation and cooling.

Currently, any farm cannot imagine growing a single variety on the farm. Only the correct placement of a correctly selected line of 10-12 varieties ensures maximum returns. At present, our strategy is to simultaneously create a polymorphic series of high-yielding varieties that differ in the duration of the growing season up to 20 days, the contribution of crop structure elements to yield, the rate of reaction to predecessors, sowing dates, seeding rates, as well as attraction and resistance to pathogens.

The following are functioning in the Bukhara region: research institutions, including the Bukhara Scientific Experimental Station; production seed farms specializing in primary and elite seed production; selection nurseries that ensure the reproduction of new varieties. However, closer cooperation is needed between science, agricultural universities, private producers and government agencies to accelerate the implementation of selection results in production.

For the effective modernization of seed production in the region, it is proposed to: create a regional seed center with the participation of scientific and production structures; intensify activities to localize and reproduce domestic drought-resistant varieties; develop state and private programs to support seed production, including subsidies and technical re-equipment of farms; develop electronic platforms for certification, accounting and marketing of seed material. Organization of innovative and resource-saving seed production in the Bukhara region is a strategic direction that ensures sustainable development of crop production and the forage base of the region. Only the comprehensive implementation of scientific developments, modern technical support and effective management decisions will allow the formation of a competitive seed industry capable of responding to the challenges of climate and economic changes.

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