



# CURRENT PROSPECTS FOR THE DEVELOPMENT OF THE PRIMARY SEED OF SHORTANBAY-1 VARIETY OF COMMON WALL WHEAT IN THE CONDITIONS OF KARAKALPAKSTAN

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## ABSTRACT

The article presents the results of the scientific experiments conducted by the Scientific Research Institute of Grains and Legumes, Karakalpakstan Scientific Research Institute, on the introduction of primary seed production of Shortanbay-1 variety of short soft wheat in the conditions of Karakalpakstan. The article focuses on the scientific basis of the establishment of the primary seed production system of Shortanbay-1 variety of winter wheat, which has high productivity and breadmaking properties suitable for different soil and climate conditions of our Republic, on the supply of high-quality seeds to farms specializing in seed production.

**KEY WORDS:** Spring wheat, variety, seed production, yield, environmental factors, quantity, variant.

## INTRODUCTION

Creation of new, early-ripening, local winter wheat varieties with high baking properties, acceleration of ecological tests in different soil and climate conditions of our republic, and organization of the primary seed system of local varieties cultivated on the basis of the scientific basis of the primary seed production system, high-generation production of seeds at low prices, economy of our currency is one of the most urgent tasks of today.

It is finding its solution by ensuring food safety, choosing varieties resistant to different levels of salinity, rational placement of varieties and improving agrotechnology of cultivation, increasing the yield of winter wheat, improving grain quality and organizing seed production.

Paragraph 3.3 of the Decree of the President of the Republic of Uzbekistan №4947 from February 7, 2017 "On the Strategy of Actions for the Further Development of the Republic of Uzbekistan" provides for continuous development of agricultural production, further strengthening of the country's food security, effective use of irrigated, including saline, lands and waters, creation and selection of new varieties of salt-resistant agricultural crops adapted to local soil, climate and ecological conditions, introduction of resource-efficient modern agro-technologies, special attention is paid to the development of grain production. Cultivation of crops on the basis of innovative technologies, along with efficient use of land, improvement of soil conditions, improvement of grain crop cultivation technology, especially development of seed production is urgent.

The President of the Republic of Uzbekistan emphasized the importance of fundamental researches in the development of science and the acquisition of new knowledge and the formation of theories through them, as well as the creation of a solid foundation for future practical researches and innovative developments.

The introduction of new varieties of promising autumn grain crops, the renewal of seeds, which are recommended to be planted with variety replacement and renewal of seeds, will create a basis for obtaining high and quality grain yields from the varieties of grain crops.

The main goal of our scientific work is to grow high-yield (original) seeds of the Shortanbay-1 variety of autumn soft wheat, suitable for different soil and climatic conditions of our republic, with high productivity and breadmaking properties,



resistant to diseases, on the basis of the establishment of the primary seed breeding system on a scientific basis, and to send them to seed production for ensuring delivery to specialized farms.

In our practice, experiments were conducted on the scientific basis of the establishment of the primary seed system of the promising shortanbay-1 variety of autumn soft wheat, which produces high and quality grains in different soil and climate conditions of the Republic of Karakalpakstan, and is introduced to the production of its seeds.

The experiment was conducted at the research station of Karakalpakstan Research Institute of Grain and Legume Crops. As a result of the works in the field of selection carried out in the experiment, the primary seed system of the newly created, promising winter wheat variety Shortanbay-1 was established on a scientific basis. As a result of the works in the field of selection carried out in the experiment, the primary seed breeding system of the promising winter wheat Shortanbay-1 variety was established on a scientific basis, the inspection of families for 1-2 years, the reproduction of seeds grown in the 1st breeding nursery of the seeds grown from the trial nurseries was organized, during the vegetation period in the nurseries. In order to ensure the purity of the variety in the phases of earing and wax ripening, 2 cleaning operations were organized and enough seeds were prepared for the 2nd year propagation nursery.

The goals and objectives of our research are as follows:

Primary breeding of winter wheat in promising varieties, development of seed breeding and scientific basis, preservation of all economic-biological signs characteristic of this variety in the process of breeding.

Primary sowing was carried out in the following scheme.

Primary sowing was carried out in the following scheme.

Breeding kernel, breeding nursery and super elite.

In the first year, 1000 generations of winter wheat primary generation trials were conducted on the promising winter soft wheat variety "Shortanbay-1".

It serves for the production of high-quality seeds, for planting in large areas, and for the increase in the quality and quantity of the products grown in the future. Also, in our conditions, the cultivation of high-generation seeds at low prices will create a basis for reducing the amount of seeds that are brought to the republic from abroad at high prices at the expense of foreign currency.

## THE FOLLOWING METHODS WERE USED IN THE RESEARCH

Phenological observation, field and laboratory analyzes carried out in field experiments were evaluated using the "All-Russian Scientific Research Institute of Plant Science" method, biometric analyzes were performed according to the "Method of the State Committee for Testing Agricultural Crops", and evaluation of resistance to rust diseases in field conditions was evaluated using the "Modified Cobb" scale. The accuracy and reliability of the obtained data were analyzed according to the generally accepted method of B.A. Dospekhov "Methods of field experience".

The experiment was carried out in the "Agrotechnics of selection and cultivation of spiked grain crops" department of the station. Scientific work was carried out based on established methods in the station's experimental section.

## RESULTS OF THE RESEARCH

Shortanbay-1 variety was planted on September 28, 2021. During the vegetation period, mineral fertilizers were given two times (February 25 and March 25, 2022) and watered on April 9, 2022.

During 2020-2022, the research was conducted at the research stations of Karakalpakstan on 5 winter wheat varieties Shortanbay-1, Garesizlik, Amangul, Utkir, Karakalpak.

The following results were obtained in the experiments carried out in the conditions of the Republic of Karakalpakstan, the northern region of the Republic of Uzbekistan (Table 1).

**Table 1.**

**Influence of spring wheat on yield indicators depending on the varieties in the conditions of the northern region (2020-2022)**

t/r	Varieties name	Productivity by years, c/ha		Average productivity, c/ha
		2021	2022	
1	Shortanbay-1	58.2	58.6	58.4
2	Garesizlik	56.5	56.9	56.7
3	Amangul	57.4	58.0	57.7
4	Utkir	48.7	48.2	48.4
5	Karakalpak	57.8	57.2	57.5

In the experiments, the yield was different in the cross-section of years related to wheat varieties. Shortanbay-1, Garesizlik, Amangul varieties increased in 2022 compared to 2021, while Utkir and Karakalpak varieties decreased in 2022 compared to 2021. The average high productivity of varieties was found in Shortanbay-1 variety (58.4 c/ha).

Shortanbay-1 variety showed to be a promising variety in the conditions of Karakalpakstan and was found to be economically effective.



In the experiment, the primary seeding of the newly created, promising autumn soft wheat variety Shortanbay-1 was organized on a scientific basis, and it was shown that if agrotechnics are carried out correctly, it is possible to grow high-generation, fertile, high-quality seeds.

At the end of the first year of the experiment, high-generation seeds of promising winter wheat variety Shortanbay-1 were grown and conditioned.

During the experiments, scientists-breeders of the institute created high-generation super-elite (original) seeds of this variety with the scientific basis of correcting the primary seeding system of the new winter wheat variety Shortanbay-1, which is included among the promising varieties for planting under irrigated conditions in our republic, and delivering it to farms specializing in seed production. has been achieved.

## CONCLUSION

During the experiment, the seeds of a promising new variety of the local Shortanbay-1 variety of autumn soft wheat, recommended for planting in the irrigated conditions of our republic, were multiplied, despite the influence of various environmental factors, a high yield was obtained, and the variety showed the possibility of high yield in the conditions of Karakalpakstan.

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