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**TECHNOLOGICAL QUALITY INDICATORS OF GRAIN OF THE  
VARIETIES STUDIED AT THE COMPETITIVE VARIETY TEST  
NURSERY**

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**Abstract.** In this article, the technological quality indicators of the experimentally studied varieties are presented in laboratory conditions with the necessary laboratory equipment, information on grain nature, transparency, gluten, protein content, weight of 1000 grains.

**Keywords:** technological indicators of grain, quality indicators of grain, winter wheat, variety, competitive variety trial nursery, experiment, gram, liter, percentage.

**INTRODUCTION**

Scientific justification of the problems of global climate change, creation of resistant varieties is one of the important factors of research. Breeding is a long-term research process that culminates in the creation of early, high-yielding, high-quality varieties. In the framework of scientific research, it is important to evaluate varieties resistant to abiotic factors of the external environment.

R.I. on creation of local varieties by studying, selecting and hybridizing the varieties and samples of IKARDA, SMMIT international scientific organizations belonging to the Krasnodar selection on the creation of local varieties with high quality indicators of early spring, grain yield and breadmaking quality by the scientists of our republic. Siddikov, I.U.Egamov, S.E.Teshaboev and A.M.Mansurov, N.Kh.Yusupov, D.Alimova, M.Karimova conducted scientific research. A.A. Omonov, Z.F. Ziyodullaev, R. Siddikov, selection of introduction early-early varieties and samples belonging to the selection of IKARDA, CIMMYT international scientific organizations on the autumn and spring soft and hard wheat varieties suitable for wet areas and dry areas, N.Umirov, A.Khayitboev, T.

Orinboev, A.Nurbekov conducted a number of scientific researches and created local varieties by selection and evaluation.

Productivity, productivity and product quality are the main indicators that define breeding stock, and they consist of a number of signs and characteristics. The amount of protein in grain and its quality are significantly influenced by soil structure, fertilizing, feeding with nitrogen fertilizers and other agrotechnical measures. The decrease in the amount of protein and gluten in grain occurs due to the increase in productivity and the lack of nitrogen in the soil, which is easy for plants to absorb. But this problem cannot be solved by increasing the amount of nitrogen applied to winter wheat.

The plant begins to develop strongly from the time of wrapping the tube. Therefore, the plants should be sufficiently supplied with water and nutrients in this phase.

This period in the life of plants is considered a "critical period". It has been studied that the productivity of wheat depends to a certain extent on the level of nutrition and moisture supply, on the physiological processes during the period of tillering of the plant (2020).

In the conditions of Uzbekistan, as a result of an increase in the weight of 1000 grains by 7.7 8,0 times, an increase in bruising power by 1.5-2 grams is observed. It was found that when the weight of 1000 grains increased by 9-10 grams, the field germination of seeds was 7.5-10 %, and the number of sprouts and rootlets increased significantly.

The main indicators are productivity, productivity and product quality, which are a sum of several signs and characteristics.

The amount of protein in grain and its quality are affected by soil structure, fertilizing, feeding with nitrogen fertilizers and other agrotechnical measures. A decrease in the amount of protein and gluten in grain leads to an increase in productivity, a decrease in the amount of nitrogen in the soil, which is easy for plants to absorb. [Z. Ziyadullae, A. Fayzullaev, N. Khojamovlar ( 2020 ) studies].

There is a positive correlation between protein content of wheat grain and dry gluten, and the correlation coefficient is close to one ( $r=0.97$ ).

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Grain gloss is one of the important quality indicators, it changes under the influence of the external environment and serves as a hereditary sign of wheat varieties and species. This trait is positively associated with the amount of protein and gluten in the grain and determines the consistency of the grain endosperm.

One of the sources of increasing the amount and quality of protein in grain is the creation of productive varieties of wheat that ensure uniform formation of high technological properties.

Quality indicators of grain: weight of 1000 grains GOST 10842-89, grain nature GOST 10840-64, degree of glassiness GOST 10987-76, protein content GOST 10846-91, gluten content, quality (IDK) indicators were determined according to the requirements of GOST 13586.1-68 and experiment results, mathematical-statistical analysis were determined according to B.A.Dospekhov (1985) method.

#### METHODS AND MATERIALS

*The 8 local and foreign varieties studied in the competitive variety testing nursery are resistant to diseases and pests in field conditions, and have high yield and grain quality indicators.*

**selection of new wheat varieties with high gluten and protein content, resistant to unfavorable factors of the external environment, creation of a seed breeding system and application to production. Styles are determined using devices based on GOST requirements .**

Field experiments Scientific practical experiments of 8 varieties and kaitarik were conducted in the central field of the institute during the year 2023 in the competitive variety test nursery of the experimental field of the scientific research institute of grain and leguminous crops, Andijan district, Andijan region. The soils of Andijan region are located at an altitude of 430 m above sea level 460 мerp, and are mainly irrigated lands.

#### RESULTS AND DISCUSSION

The following results were obtained when the grain technological quality indicators of the varieties in the studied competitive nursery were studied in laboratory conditions.

**Table 1**

**Grain technological quality indicators of selected varieties in the competitive variety test (2023)**

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No	Varieties name	Grain type, (gr)	Transparency, (%)	Gluten, (%)	Protein content, (%)	1000 pieces of grain , g
1	Khamkor	800	67.3	31.2	14.9	43.5
2	Navbakhor	820	68.0	28.5	14.2	42.0
3	Rizk	814	68.4	28.6	14.3	40.2
4	Davr	800	67.0	30.0	14.5	44,0
5	Flesh	800	61.3	30.0	15.0	40.8
6	Shkola	815	68.1	28.5	14.1	40.1
7	Step	822	68.3	28.5	14.5	44.0
8	Elanchik	815	62.5	30.0	14.5	44.0

The type of grain selected is 800 g/l in the studied Khamkor variety, 820 g/l in the Navbakhor variety, 814 g/l in the Rizk variety, 800 g/l in the Davr variety, 800 g/l in the Flesh variety, 815 g/l in the Shkola variety, and 822 /l g in the Step variety., in Elanchik variety it was 815 gr/l. It was observed that the other studied variety was 800-795 gr/l.

Transparency was 67.3% in the selected Khamkor variety, 68.3% in the Step variety, 68.4% in the Rizk variety, and 67.0-62.2% in other studied varieties.

The amount of gluten was 30.2% in Davr, Elanchik, Flesh varieties, 28.6% in Risq navidy, and 28.5% in other varieties.

The weight of 1000 grains was equal to 44.0 g in Davr, Step, and Elanichik varieties, compared to other varieties.

**CONCLUSION**

According to the results of the conducted practical research, varieties resistant to diseases and pests in field conditions, as well as to global climate conditions, i.e. air temperature cooling, or sudden hot high points, high-yielding varieties with high grain technological quality indicators were selected. Khamkor, Davr, Flesh, Elanchik varieties.

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