LABORATORY FERTILE ASSESSMENT OF TWO-SEASON (DUVARAK) WHEAT VARIETIES AND RIDGES

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Abstract: This article provides an analysis of seed germination, root quantity, root length and coleoptile of 25 varieties and two-handle samples with standard spring varieties in laboratory conditions. A selection with high rates was carried out and proposed as a source for use in the breeding process.

Key words: Spring wheats, variety, sample, nursery, germination, laboratory, root quantities, root length and coleoptile.

Introduction. From the first years of independence, the government of our country has developed a set of measures to fully meet the needs of the population in grain and grain products, and began to implement them in practice. In recent years, the area under spring wheat in the country's agriculture has been expanding, productivity is increasing year by year, and meeting the demand of the population for bread and bakery products remains an important task. Several new, high-yielding wheat varieties adapted to the complex climatic conditions of the republic have been created, and the quality and consumption characteristics of the grain grown have also significantly increased.

Creating high-quality wheat varieties and increasing grain production in all countries of the world is one of the urgent tasks of today.

of the most pressing issues facing scientists in the country is the change of climatic conditions, the development of scientifically based, experimentally tested, resistant to drought, various pests and diseases, regionalized, high-yielding varieties in the period of water scarcity .

In field conditions, when the temperature changes, the seeds can absorb even a low concentration of bound moisture in the soil due to soil vapors for a day, depending on their internal physiological capacity [1].

The germination phase of wheat is important for the harvest, because in the same phase the activity of the root system decreases and the main root system is formed. In general, biologically fast-growing varieties of wheat in the field of agriculture allow to intensify farming in different soil and climatic conditions of the country.

One of the current challenges facing wheat selection is to create varieties that are drought-resistant, have a strong developed root system, and have the ability to effectively use the moisture and nutrients accumulated in the lower layers of the soil [3].

In order to create new varieties of wheat for dry lands in the laboratory "Plant Physiology and Biochemistry" of the Southern Agricultural Research Institute, the germination of seeds of 25 varieties and ridges of two-season wheat was determined. The germination of wheat seeds was placed in a thermostat at a temperature of 22 ^{0} C, and the germination of seeds was determined in accordance with the requirements of GOST 12038-84 [2].

“Janub Gavhari” and “Gallakor” varieties of wheat included in the state register were taken as standard varieties.

In the laboratory, the seeds of cultivars and ridges were counted on 15 January in 3 returnable petri dishes, each containing 50 seeds. According to the results of laboratory analysis, the seed germination of cultivars and ridges was 68-100%.

In laboratory studies, the seed germination rate of the standard varieties was 90-98%, while 16 ridges of the J.Gavhari variety had higher germination rates compared to the ridges with higher seed germination. The number of ridges with high seed germination from the model Gallakor variety was 1.

Table 1
Laboratory fertility of varieties and ridges.

No	Name	The power of growth	Fertility	Number of roots	Root length	Coleoptelioutput
1	J.Gavhari (template)	80	90	3	5.04	2.28
2	KR19-19thDSBWYT-29639	82	96	3	3.69	1.93
3	KR20-20thDSBWYT-04	74	94	4	5.28	2.53
4	KR20-20thDSBWYT-49	66	96	5	4.86	2.82
5	KR20-20thHTSBWYT-35	82	94	3	4.34	1.46
6	G'allakor (template)	80	98	4	5.32	3.14
7	KR19-19thDSBWYT-29782	76	96	3	5.50	2.40
8	KR20-20thDSBWYT-05	68	80	3	4.55	2.26
9	KR20-20thESBWYT-05	70	86	3	4.85	2.17
10	KR20-20thHTSBWYT-38	82	96	4	4.71	3.00
11	17 th SBWYT-2017-P-17	88	92	4	3.84	2.55
12	KR19-19thDSBWYT-29872	64	94	4	5.29	2.95
13	KR20-20thDSBWYT-07	72	80	4	3.62	1.75
14	KR20-20thESBWYT-12	76	100	4	5.47	2.38
15	KR20-20thHTSBWYT-41	82	98	4	4.97	1.57
16	17 th SBWYT-2017-P-6	68	94	4	5.48	2.61
17	KR19-19thDSBWYT-29979	78	94	4	6.20	3.21
18	KR20-20thDSBWYT-26	64	92	4	4.00	2.47
19	KR20-20thESBWYT-39	68	70	3	1.94	0.57
20	KR20-20thHTSBWYT-45	80	96	5	6.14	3.22
21	17 th SBWYT-2017-P-72	86	84	4	3.51	2.22
22	KR19-19thDSBWYT-30140	84	92	4	4.12	3.11
23	KR20-20thDSBWYT-44	54	68	3	1.96	0.41
24	KR20-20thESBWYT-46	74	92	4	3.60	1.80
25	KR20-20thHTSBWYT-48	88	94	4	6.23	3.26

We know that water and nutrients are essential for the good growth and development of plants. The force that moves food and water from bottom to top and from top to bottom is root pressure. One of these signs is also the presence of strong root systems of plants that are drought and heat resistant. Therefore, the number of roots and root length is one of the important indicators. Variety and ridge root number, root length, coleoptelian length in comparison with standard varieties J.Gavhari and Gallokor cultivars have 3-4 roots, root length is 5.04-5.32 cm, and coleoptele length is 2.28-3.24. cm. According to these indicators, the number of ridges with a higher index than the variety of J.Gavhari, ie 16 ridges on the number of roots, 8 ridges on the length of the root, 13 ridges on the length of the coleoptelium. The number of ridges with a higher index than the template Gallokor variety was 2 ridges in terms of the number of roots, 6 ridges in terms of root length, and 4 ridges in the length of the coleoptelium. Root system and coleoptelium in only three ridges KR19-19thDSBWYT-29979, KR20-20thHTSBWYT-45 and KR20-20thHTSBWYT-48 length was high, root length was 6.14–6.23 cm, and coleoptelet length was 3.21–3.26 cm.

Conclusion. With this in mind, the well-developed root system of the seeds of cultivars and ridges indicates that they are less resistant to drought, and the high laboratory fertility is higher in field conditions. Seeds of

this laboratory with high fertility and well-developed root system and seeds of ridges were recommended to breeders for high efficiency in field experiments for use in the next stages of selection .

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