



WEIGHT OF 1000 GRAINS AND YIELD OF VARIETIES AND LINES OF TWO SEASONAL SOFT WHEAT TO WATER DEFICIENCY.

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Article history:	Abstract:
Received: 8 th July 2023	Dry conditions are one of the main climate factors in wheat growing areas. Often the drought in our republic negatively affects the plants during the growing season causing a decrease in the yield and quality of grain. Under these conditions, 25 lines of wheat varieties and lines were planted in the experimental nursery of competitive varieties. They were selected by comparison with standard varieties and selected high-yield lines weighing 1000 grains.
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According to world statistics, 35-50% of wheat growing areas are under threat of drought. The number of fields may increase due to climate change. Climate change on Earth, the increase in desertification, and the reduction of drinking and irrigation water pose the issue of water conservation and growing agricultural products in conditions of water scarcity for all humanity. In recent years, one of the main requirements when creating new varieties is to obtain a harvest under changing environmental conditions and under conditions of water deficiency.

Today's frequent droughts have a serious impact on wheat yields during the growing season, causing a decrease in grain yield and quality. In this situation, it is important for breeders to create varieties that are resistant to water deficit conditions in order to reduce losses in agriculture.

Drought resistance is a very complex feature that depends on the anatomical and morphological characteristics of moisture, which reduces water evaporation, dehydration of the cytoplasm of cells, the concentration of thermal and salt compounds, physiological stability, and the biology of growth and development. [2; 52-57 b]. The resistance of varieties to drought is closely related to climatic conditions. For example, the presence of small, brightly colored leaves on plants is one of the signs of resistance. [3; 85 b]. Drought quickly covers large areas and sharply reduces crop yields. Agricultural crops will suffer from this. One of the measures to combat drought is the creation of drought-resistant varieties [4; 28-32 b, 5; 349-351 b]. Therefore, it is very important to evaluate the drought resistance of plants in all periods and create wheat varieties by creating provocative backgrounds and testing varieties under extreme conditions.

RESEARCH METHODOLOGY. Based on the above objectives, drought resistance of 25 varieties and lines of two-season spring soft wheat in a competitive nursery was carried out in the field by controlling soil moisture in a provocative way, that is, by creating artificial backgrounds with traditional watering and protection from rain. This approach allows us to assess the stability of yield and the resistance of varieties and lines under conditions of water deficiency.

ANALYSIS AND RESULTS. According to the results of the study the yield of varieties and lines in the competitive nursery is 5.3-10.6 c/ha, and with soil moisture of 50% the yield is 2.1-7.8 c/ha and against the background of traditional irrigation it was possible to obtain a grain harvest 7.4-14.4 centners (table-1).

It was established that the grain yield of standard varieties J. Gavhari, Navruz and Parvoz under drought conditions with soil moisture of 60% was 8.2-10.3 c/ha and with soil moisture of 50% it was 5.2-6.7 c/ha. It was noted that the lines KR20-20thHTSBWYT-38 and KR20-20thDSBWYT-48 showed good results at 60% soil moisture; the grain yield was 10.4-10.6 c/ha and 7.5-7.8 c/ha at 50% soil moisture (table-1). When analyzing the obtained data on the weight of 1000 grains of these varieties and lines, the weight of 1000 grains of the Parvoz variety was higher among standard varieties under traditional irrigation and amounted to 34.3 grams. It was established that the weight of 1000 grains of 7 lines was higher than that of the Parvoz variety. At 60% and 50% soil moisture was higher in the variety J. Gavhari, 4 tench at 60% soil moisture and 5 tench at 50% soil moisture were higher from this variety. At 60% and 50% soil moisture was higher in the variety J. Gavhari, 4 tench at 60% soil moisture and 5 tench at 50% soil moisture were higher from this variety.

Table-1

Weight of 1000 grains and yield of varieties and lines of two seasonal soft wheat to water deficiency.

№	Varieties and number of lines	Grain yield, c/ha			Weight of 1000 grains, g		
		Traditional irrigation	SM 60%	SM 50%	Traditional irrigation	SM 60%	SM 50%
1	Ж.Гавxари (st)	11,3	8,2	5,7	32,6	30,6	24,3
2	Navruz (st)	12,5	8,5	5,2	31	26,4	22,3
3	Parvoz (st)	13,3	10,3	6,7	34,3	28,1	22,9
4	17 th SBWYT-2017-P-6	13,2	9,7	7,2	31,2	23,4	20,6
5	17 th SBWYT-2017-P-72	9,7	7,9	5,1	30,6	25,8	21
6	KR19-19thDSBWYT-29639	8,5	5,3	3,9	36,2	25,7	20,3
7	KR19-19thDSBWYT-29782	7,4	6,3	4,5	30,9	29,4	22,1
8	KR19-19thDSBWYT-29872	12,3	9,3	7,7	34,2	27,8	23,1
9	KR19-19thDSBWYT-29979	12,2	8,8	6,1	31,1	27,8	22,3
10	KR19-19thDSBWYT-30140	10,4	7,3	5	30,6	28,7	21,7
11	KR20-20thDSBWYT-04	9,6	6,1	4,4	33,1	25,7	19,9
12	KR20-20thDSBWYT-05	10,2	6,7	5,0	32,3	28	20,8
13	KR20-20thDSBWYT-07	12,5	7,2	6,1	32,7	24,6	21,1
14	KR20-20thDSBWYT-26	9,6	8,6	5,7	34,4	29,2	20,1
15	KR20-20thDSBWYT-44	10,7	6,7	3,6	33,9	27	19,2
16	KR20-20thDSBWYT-49	10,6	5,4	3,6	33,3	25,2	20,7
17	KR20-20thESBWYT-05	8,5	6,2	2,4	31,4	23,4	20,8
18	KR20-20thESBWYT-12	13,1	10,4	7,3	37,5	31,4	26,1
19	KR20-20thESBWYT-39	13	10,1	2,1	30,7	29,4	24,9
20	KR20-20thESBWYT-46	13,5	7,8	3,4	43,3	31,1	23,7
21	KR20-20thHTSBWYT-35	9,6	6,4	4,4	33,6	26,6	21,4
22	KR20-20thHTSBWYT-38	14,1	10,6	7,8	40	30,2	17,9
23	KR20-20thHTSBWYT-41	12,5	9,6	6,8	37,9	30,8	19,6
24	KR20-20thHTSBWYT-45	9,7	8,2	6,3	33,7	28	26,9
25	KR20-20thHTSBWYT-48	14,4	10,4	7,5	36,5	31,8	26,3
	Minimum	14,4	10,6	7,8	43,3	34,4	26,9
	Mean	11,4	8,2	5,3	34,2	28,2	21,9
	Maximum	7,4	5,3	2,1	30,6	23,4	17,9

CONCLUSIONS. In an experiment conducted under drought conditions under artificial conditions, from 25 varieties and lines studied in a competitive variety test nursery, KR20-20thESBWYT-12, KR20-20thESBWYT-38 and KR20-20thESBWYT-48 were selected as drought-resistant varieties and these lines were also highly resistant to drought conditions.

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