European Journal of Agricultural and Rural Education (EJARE)
Available Online at: https://www.scholarzest.com
Vol. 4 No. 04, April 2023
ISSN: 2660-5643

GRAIN YIELD AND WEIGHT OF 1000 GRAINS OF TWO-SEASON SOFT WHEAT LINES RESISTANT TO WATER DEFICIENCY.

*[1]**Bakhramova Nilufar Nazarovna,**
[1]**Aminova Dildora Holmurodovna**
Senior Researcher
[1] Southern Research Institute of Agricultural, 180100, Karshi, Uzbekistan[1].
*Corresponding author: **bakhromova.nilufar@mail.ru**

Article history:

Received: 21st February 2023
Accepted: 21st March 2023
Published: 28th April 2023

Abstract:

Dry conditions are one of the main features of the climate of the wheat growing areas in Uzbekistan. Frequent droughts in Uzbekistan have a negative impact on plants during the growing season, causing a decrease in yield and quality of grain. Under these conditions, 25 lines were planted in an experimental nursery of competitive varieties using wheat varieties and tenches. They were selected by comparison with model varieties, and high-yielding ridges weighing 1000 grains were selected

Keywords: wheat, drought, grades and ridges, provocation method, grain yield, weight of 1000 grains and soil moisture.

One of the priority areas of our republic is the cultivation of agricultural crops with a high and high-quality yield, and today large-scale reforms are being carried out in our country in this direction. 35-50% of the world's wheat acreage is at risk of drought. The number of fields may increase due to climate change. Climate change on Earth, intensification of desertification, reduction of drinking and irrigation water supply raises the issue of water conservation and cultivation of agricultural products in conditions of water scarcity for all mankind. In recent years, one of the main requirements for the creation of new varieties is to obtain a crop in changing environmental conditions and in conditions of water deficiency.

It is known that in recent years, changes in nature have had a number of negative consequences, especially in the cultivation of crops. It is important to choose drought-resistant varieties of crops and introduce them to dry areas.

The current frequent droughts during the growing season of wheat have a great impact on the plant, causing a decrease in yield and grain quality. In this situation, it is important for breeders to create varieties that are resistant to water scarcity conditions in order to reduce losses in agriculture.

Drought resistance is a very complex characteristic, depending on the anatomical and morphological properties of moisture, which reduce water evaporation, dehydration of the cell cytoplasm, the concentration of thermal and salt compounds, physiological stability, biology of growth and development [2; 52-57 p].

Drought resistance of varieties is closely related to climatic conditions. For example, narrow, narrow leaf blades, bright color of leaves are characteristics of resistance [3; 85 p].

Drought quickly covers large areas and drastically 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 p], [5; 349-351 p].

Therefore, it is very important to assess the drought resistance of plants in all periods and create wheat varieties by creating provocative backgrounds and testing varieties under extreme conditions.

In order to create drought-resistant varieties, studies were carried out on 25 varieties and ridges of spring soft wheat of two-season competition in the nursery by provocative control of soil moisture, i.e. protected from rain, artificial backgrounds were created. This approach makes it possible to assess the yield stability and resistance of varieties and lines under conditions of water deficit.

The grain yield and weight of 1000 grains of varieties and rows planted in a two-season experimental field of soft wheat were determined.

According to the results of the study, the yield of varieties and rows in the nursery of competitive varieties tested according to variants under artificial conditions, under arid conditions of the provocative method, was 11.1-29.3 t/ha with soil moisture. 60%, and the grain yield is up to 10.0-18.5 centners at a soil moisture content of 50%

Under these conditions, it was found that the grain yield (soil moisture 60%, 50%, 50 %) it was noted that KR20-20thHTSBWYT-45 and KR19-19thDSBWYT-29782 showed a high result of 28.2-29.3 t/ha at 60% soil moisture and 18.3-18.5 t/ha at 50% soil moisture.

Table 1

Productivity and weight of 1000 grains of varieties and rows planted in the competition nursery.

№	Type and number of rows	Productivity, ts/ha			1000 grain weight, g		
		Conventional irrigation	Soil moisture 60%	Soil moisture 50%	Conventional irrigation	Soil moisture 60%	Soil moisture 50%
1	J. Gavhari (st)	27,3	14,2	10,7	32,6	30,6	24,3
2	Nowruz (st.)	23,5	18,5	12,1	31	26,4	22,3
3	Parvoz (st)	19,3	14,3	10,7	34,3	28,1	22,9
4	17 th SBWYT-2017-P-6 (New V)	33,2	19,7	13,2	31,2	23,4	20,6
5	17 th SBWYT-2017-P-72	27,7	17,9	12,1	30,6	25,8	21
6	KR19-19thDSBWYT-29639	28,5	15,3	10,9	36,2	25,7	20,3
7	KR19-19thDSBWYT-29782	37,4	29,3	18,5	30,9	29,4	22,1
8	KR19-19thDSBWYT-29872	22,3	12,3	10,7	34,2	27,8	23,1
9	KR19-19thDSBWYT-29979	22,2	12,8	10,1	31,1	27,8	22,3
10	KR19-19thDSBWYT-30140	20,4	14,3	10,0	30,6	28,7	21,7
11	KR20-20thDSBWYT-04	26,6	23,1	17,7	33,1	25,7	19,9
12	KR20-20thDSBWYT-05	36,2	26,7	10,5	32,3	28	20,8
13	KR20-20thDSBWYT-07	32,5	22,2	11,0	32,7	24,6	21,1
14	KR20-20thDSBWYT-26	29,6	18,6	10,7	34,4	29,2	20,1
15	KR20-20thDSBWYT-44	36,7	26,7	11,6	33,9	27	21,1
16	KR20-20thDSBWYT-49	30,6	25,4	13,6	33,3	25,2	20,7
17	KR20-20thESBWYT-05	27,5	16,2	12,4	31,4	23,4	20,8
18	KR20-20thESBWYT-12	23,1	11,1	10,3	37,5	34,4	29
19	KR20-20thESBWYT-39	37,0	21,1	12,1	30,7	29,4	24,9
20	KR20-20thESBWYT-46	35,0	17,8	13,4	43,3	31,1	23,7
21	KR20-20thHTSBWYT-35	26,0	20,4	14,4	33,6	26,6	21,4
22	KR20-20thHTSBWYT-38	24,1	20,6	10,8	40	30,2	28,1
23	KR20-20thHTSBWYT-41	25,3	19,6	11,8	37,9	30,8	19,6
24	KR20-20thHTSBWYT-45	37,7	28,2	18,3	33,7	28	26,9
25	KR20-20thHTSBWYT-48	24,4	20,4	13,5	36,5	31,8	28,4

When analyzing the data obtained on the weight of 1000 grains of these ridges, the weight of 1000 grains of the Parvoz variety was higher and amounted to 34.3 grams. The weight of 7 combs was found to be 1000 grains above the flying type. At 60% and 50% soil moisture, the J. Gavhari variety was higher, compared with this variety at 60% soil moisture above 4 ridges, and at 50% soil moisture above 5 ridges.

IN CONCLUSION, we can say that the selection of drought-resistant varieties is one of the most urgent breeding tasks today, given that when studying two-season wheat varieties and lines in nurseries, it was noticed that the lines KR20-20thHTSBWYT-45 and KR19-19thDSBWYT-29782 showed good results. 28.2-29.3 q/ha at 60% soil moisture, 18.3-18.5 q/ha at 50% soil moisture and showed higher productivity than all varieties of the sample.

REFERENCES.

1. Amanov A.A., Buriev Kh., Gafurova L., Nurbekov A.I. grain grain. Editor-in-chief of the publishing and printing joint-stock company "Sharq", Tashkent, 2004 Pp 52-57.
2. Asseng, S., Foster, I., & Turner, N. The impact of temperature variability on wheat yields. *Global Change Biology, 17,* Pp 997-1012
3. Abdukarimov D.T. Private selection of field crops. - Tashkent, 2007. Pp. 85.
4. Beranek V., Gross S., Gomoli V. Intensivnoe proizvodstvo zerna. / Per. sesh Z.K. Blagoveshchenskoy. - Moscow, Agropromizdit, 1985. -pp. 28-32.

5. Sinha S.K. Drought Resistance in Crop plants: A critical physiological and biochemical assessment. Drought tolerance in winter cereals. Proceeding of International Workshop 27-31 October. Capri. Italy.1985. –PP. 349-351.