

Productivity of Barley Varieties and Samples in Non-Irrigated Conditions.

Lukov M.K.

Supervisor, Candidate of Agricultural Sciences, Associate Professor of Termez Institute of Agrotechnology and Innovative Development,

Khaliyarov I.Kh-

Master of Samarkand branch of Tashkent State Agrarian University.

Abstract: *This article provides information on the role of barley in the creation of the fodder base of livestock, drought tolerance, the order of cultivation in arable lands, varieties with high productivity, samples.*

Keywords: *Barley, drought-resistant varieties, arable lands, food unit, varieties, phenological observation, productivity indicators, weight of 1000 grains.*

Introduction. Barley is a vital grain for food, fodder, and technical use. Barley groats, pearl barley, and flour are all made from its grain. Barley malt extracts are utilized in the pharmaceutical, confectionery, textile, and leather industries.

Bread is formed by mixing barley flour with wheat flour, and the grain is also used to make huge and crushed cereals as well as beer. The grain is fed to livestock as nutritious fodder. The grain contains up to 15% protein, 65% nitrogen-free substances 2.1% fat, 5.0-5.5% tissue, 2.5-2.8% ash. Barley yields 11-15 s / ha in dry lands and 40-45 s / ha in wetlands. Barley contains -121 nutrients per 100 kg of grain and straw contains 33 nutrient units. Ataboyeva Kh.N. /2000/, Khalilov N.Kh./2007/

Barley has been farmed on irrigated and fallow fields in Uzbekistan for thousands of years. In the 1930s, scientists began studying barley selection and cultivation techniques. Breeders N.V. Pokrovsky and F.A. Kvyatkovsky worked on developing new barley varieties for the first time at the Kattakurgan experimental station. Since 1934, Uzbek breeders at the Millyutin Experimental Station have encouraged the planting of local barley cultivars Toshkallak and Unumili in all arable and moist lands. These varieties are grown on arable land in Turkmenistan, Kyrgyzstan, Tajikistan and other countries. Yields up to 15-25 s/in years with high natural humidity Khaydarov I.I., Omonov M. /1982. p.30-3/ However, the main selection work on barley continued on a large scale after the 1970s.

According to breeder T. Mamatkulov /2006-17-p.19./, the international organization IKKARDA held a tournament in 1990 in Alno, Syria's most desert region, in which 14 kinds from around the world and Central Asian countries competed. Mevlana noted that the barley variety developed at the Gallaorol experimental station produces up to 78 percent more yield than in other states.

Barley is a drought and salinity tolerant cereal plant that matures early. Excess wetness and acidic soils are not a problem. Barley has a vegetation period of 55 to 90 days or more. G. Kurbanov, / 1975. p.19./

Following independence, the government implemented extensive agricultural reforms and passed a number of resolutions and ordinances. In specifically, the Presidential Resolution of the

Republic of Uzbekistan PD-2460 "On steps to further reform and promote agriculture in 2016-2020," on December 29, 2015. According to paragraph 3.3 of the Presidential Decree of the Republic of Uzbekistan by Sh.M. Mirziyoyev PD-4947 "On the Strategy of Actions for the Further Development of the Republic of Uzbekistan" Accelerated Development" signed on February 7, 2017.

Relevance: One of the most critical concerns is determining the most convenient and simple way to grow barley to supplement livestock feed, as well as selecting drought-resistant cultivars and an efficient approach to grow them on arable land.

Materials and methods: At the Samarkand Experimental Station of the Institute of Vegetable and Melon Crops and Potato Research in non-irrigated conditions, 31 varieties and samples were studied in small units. After studying the growth, development and productivity of this variety, 5 varieties and samples with the best drought resistance were selected. In 2020-2021 in the foothills of the Urgut district of Samarkand region in the farm "Bakhrin", in the flat hills of the Chirakchi district of Kashkadarya region in the farm "Kochkor polvon", field experiments were conducted on "Boysun" farms in Boysun district of Surkhandarya region, which are well supplied with moisture.

In field experiments, the objects of barley were sown with seeds of barley varieties Abu Ghafur, Adir and II-reproduction samples D-3, D-27 and D-84. Row spacing of barley is 15 cm, ten rows, row length is 80 meters. Subdivision area is 120 m². (15x10=1.5m²; 80 x 1.5=120m²). In the experimental fields, the varieties (variants) were systematically placed in 3 turns. For comparative study of variants, the variety of Abu Ghafur, which is recommended for planting in arable lands, was adopted. In the pre-sowing fields, 10 tons of manure was spread and plowed to a depth of 30 cm. Other agro-technical measures were carried out as in the lalmikor region. In the field experiment, phenological observations, biometric measurements, analysis of yield elements were carried out by the Research Institute of Botany of Uzbekistan (2009), former UzPITI (2000) of the Research Institute of Cereals and Legumes and generally accepted methods.

Research results: The studied data revealed the following. In Samarkand region, barley cultivars sown in March in non-irrigated conditions, the samples of which fully pass the phases of mowing, harvesting, threshing and ripening by June. Depending on the biology of varieties and samples, the number of productive stems is 2.8-3.3, the length of the stems is 39-47 cm, the average grain weight is 1.2-1.7 g, the weight of 1000 seeds is 34.6 -37.3 g and the yield of one bush was 3.4-5.4 g. In the experiment, it was studied that the Adir variety and D-84 sample had high productivity. The data show that external factors affect the growth and development of different types of barley, the occurrence of phases, the duration of the growth period. In particular, barley varieties, samples were sensitive to drought.

In the first year, high yields were obtained from high-yielding varieties Adir (9.6 c/ha) and D-84 (9.8 c/ha), which were also found to be high in large units.

According to the data obtained in Boysun district of Surkhandarya region, 9.7 c/ha of D-84 variety and 9.3 c/ha of Adir variety were harvested. In the flat hilly conditions of Chirakchi district of Kashkadarya region, the yield of Adir variety (10.1) c/ha was 10.3 c/ha of D-84 variety and 9.8 c/ha of Abu Ghafur variety. The farm "Bakhrin" in the foothills of Samarkand region also harvested 10.6 c/ha of Adir, 10.8 c/ha of D-84 and 9.6 c/ha of Abu Ghafur. From Adir variety 1,0 c/ha, D-84 variety yielded 1.2 c/ha. EKF=0,7.

Results of phenological observation of barley varieties and samples in Samarkand region

Table 1

№	Variety and samples	Occurrence of developmental phases							
		Sowing time	Collect	Tubing	Spire	Flowering	Cooking milk	Wax baking	Full cooking
1	Abugofur (St)	3.03	4.04	24.04	5.05	9.05	17.05	23.05	9.06
2	Adir	3.03	6.04	26.04	7.05	11.05	19.05	26.05	12.06
3	D-3	3.03	3.04	23.04	4.05	8.05	16.05	21.05	7.06
4	D-27	3.03	5.04	25.04	6.05	10.05	18.05	24.05	10.06
5	D-84	3.03	7.04	27.04	8.05	12.05	20.05	28.05	14.06

Productivity of barley varieties and samples in Samarkand region

Table 2

№	Variety and samples	Number of productive stems (pieces)	Number of grains per spike (pieces)	Grain weight (g)	1000 grain weight, gr	A crop of a bush, gr	Average yield, (s / ha))
1	Abugofur (St)	3,2	41,4	1,5	36,1	4,8	9,6
2	Adir	3,3	38,7	1,6	37,3	5,3	10,6
3	D-3	3,1	34,6	1,3	35,4	4,0	8,0
4	D-27	2,8	35,2	1,2	34,6	3,4	6,8
5	D-84	3,2	36,3	1,7	35,7	5,4	10,8

Conclusion. The susceptibility of barley varieties to different environmental factors, especially dehydration, varies from variety to variety depending on its biology. It was recommended to sow Adir and D-84 varieties of barley in Surkhandarya, Kashkadarya and Samarkand regions, which provide 9-11 c/ha of barley in non-irrigated conditions. At the same time, the D-84 variety is recommended for small variety testing and competitive variety testing in future varieties.

References:

1. Abdugarimov D.T. Private selection of field crops T. 2007.
2. Ataboyeva Kh.N. Botany T. 2021.
3. S.Khalilov N.Kh Botany T. 2006.

4. Khaydarov Kh. Omonov M. Uzbek Grain Research Center "Uzbekistan" Publishing House T. 1982/1982. P.30-31./
5. Mamatkulov T., Mamatkulov A. Results and directions of barley selection in irrigated lands of Uzbekistan / Seed selection and cultivation technology of irrigated crops in irrigated lands / Rep. sien. kon mat. p.37-38., Samarkand 2006.
6. Kurbonov G.K. "Yachmchn in the conditions of bogarnbih zmlyah in Uzbekistan, ed.. «Science « 1972. St. 19
7. Lukov M.K, Khaliyarov I.Kh "Features of growing barley and sunflower on dry lands""Samarkand Institute of Veterinary Medicine "CONFERENCE COLLECTION 2021.No.1. P.1-3.
8. V.N. Naumkin, A.S. Stupin. "Technology of Crop Production" spring barley. St.Petersburg. Moscow. Krasnodar 2014. P.215.