

Characteristics of economically valuable traits of the studied varieties and lines in competitive variety testing.

Umida Karshieva Shukurovna¹, Z. Juraeva², Khurshida Keldiyarova Hudayorovna³, B. Mavlonov⁴

¹*Candidate of Agricultural Sciences, Samarkand institute of veterinary medicine. Samarkand 140103. Uzbekistan.*

²*Candidate of Agricultural Sciences. Associate Professor of Department of Plant Physiology and Microbiology Samarkand 140103. Uzbekistan.*

³*Candidate of Agricultural Sciences. Associate Professor of "Botany and Plant Physiology," associate professor of Samarkand State University, Samarkand 140103. Uzbekistan.*

⁴*Candidate of Agricultural Sciences, Samarkand institute of veterinary medicine. Samarkand 140103. Uzbekistan.*

Summary. *The conclusion was made on the opportunity of imposing mild wheat varieties at the expense of donor's undersized Valuable selection material was created on this basis concerning selection programmer for irrigated conditions of Uzbekistan.*

Keywords. *Initial material, selection, shear-wheel wheat, winter wheat, early ripeness, creating varieties*

1. INTRODUCTION

The main urgent task of grain growing is to strengthen the economy of the state by expanding grain production and in order to provide safe products for the population to improve the quality of grain, incl. soft wheat. Wheat is a crop that meets the basic needs of the world's population for bread and bakery products. According to FAO 1, the total grain production around the world is within 2 billion 450 thousand tons, of which the share of cereals is 2 billion 194 tons (wheat, rye, barley, oats, triticale, rice, corn, millet), and grain legumes 256 million tons of grain. Today, grain independence has been achieved in Uzbekistan and the country is among several exporting states. Due to the introduction of systemic comprehensive measures, the grain yield in 2018 reached 6 million 124 thousand tons and in 2019 amounted to 8 million 377 thousand tons. In the world, research is being carried out in the following priority areas such as increasing yields and quality traits of wheat by reducing the length of the stem: The purpose of the research is to create resistant to lodging, to diseases and pests, resistant to unfavorable conditions and high-yielding varieties of winter soft wheat in the irrigated lands of Uzbekistan and to scientifically substantiate, taking into account biological characteristics, to determine the optimal sowing time and fertilizer rate for the Kipchosuv variety. Research objectives: are as follows: - selection of varieties of soft wheat of various geographic origin by morphological, biologically and economically valuable traits and properties; - selection of high-yielding varieties of short-stemmed soft wheat; with economically valuable features; Research methods. Field and laboratory experiments were carried out according to the generally accepted method, observations, records and analyzes

according to the methodology of the All-Russian Research Institute of Plant Industry (1984), “Methodology for conducting field experiments (Uz NIIH, 1984)”, assessment of morphological and biometric indicators according to the international classifier “International classifier of CMEA of the genus *Triticum* L. (L. 1984)”, developed according to the genus *Triticum* L, assessment of resistance to rust in the field according to the Modified Cobb scale in percent (0-100% Peterson et al., 1988), heat resistance according to N. Kozhushko's method, biometric analyzes according to the method of the State variety testing of agricultural plants (1985; 1989) and according to the recommended methodological manuals (2004) of the Scientific Research Institute for Grain and Leguminous Crops of the Galyaaraal Scientific Experimental Station. Of the total number of studied 1140 world varieties and samples of soft wheat, 342 (30%) were early ripening samples, 570 (50%) were mid-ripening samples (22%) and 228 (20%) were late ripening samples. The environments of the studied samples were selected early ripening samples (Ethiopia), (Peru), (Algeria), (Turkey), (Syria), (Yugoslavia), (Japan), (Norway), (Turkey), (Mexico), (India) by productivity and grain yield, (Argentina), (Iran), (Tunisia), (Algeria), (Ruminia). (Hungary), (Peru), (USA), (Mexico) (CIMMYT), (China), (SIT), (Iran) had high rates compared to the rest of the samples and to the control. The wheat plants studied in the research were divided into 6 groups according to the stem height. It was found that of the 1140 cultivars studied, 245 have a stem height of 41-60 cm, in 236 samples the plant stem height is 61-85 cm, in 515 samples the plant stem length was 86–105 cm, the plant stem height in 100 samples was 106-120 cm and in 44 samples the plant stem height exceeded 121 cm.

Table 1 Distribution of varieties and samples by plant stem growth (Samarkand, Galyaaraal. 1994 - 2018).

| № | Plant stem height, see | Number of samples | Lodging resistance, score | | | |
|----|---------------------------|-------------------|---------------------------|-----|-----|-----|
| | | | 9 | 7 | 5 | 3 |
| 1. | Super dwarf (below 41 cm) | | | | | |
| 2. | Midget (41 - 60 cm) | 245 | 104 | 69 | 31 | 41 |
| 3. | Semi dwarf (61 - 85 cm) | 515 | 261 | 171 | 65 | 18 |
| 4. | Short-stemmed (86-105 cm) | 236 | 59 | 75 | 39 | 63 |
| 5. | Medium (106 - 120) | 100 | | 59 | 23 | 18 |
| 6. | Tall (over 121 cm) | 44 | | 8 | 12 | 24 |
| | Total | 1140 | 424 | 382 | 170 | 164 |

In the competitive variety testing, 130 lines of soft wheat were identified earlier than the control, 83 are resistant to yellow rust of lines No. 36/2018, No. 22/2018, No. 71/2018, No. 67/2018, No. 91/2018 high-yielding and resistant to yellow rust.

In the competitive variety testing of the variety and line Semurug, KP No. 183/2017, KP No. 52/2017, KP No. 83/2018, KP No. 85/2017, KP No. 125/2017, KP No. 184/2017 turned out to be high-yielding and drought-resistant, warmth and disease.

According to the results of scientific research at the competitive testing range of varieties, the grain mass of wheat ranged from 777.1 g / l to 836.6 g / l, having high performance in the lines KP No. 183/2017 (836.6 g / l), No. 83 / 2016 (836.2 g / l), KP No. 52/2017 (836.6 g / l), 184/2017 (833.5 g / l.),

If on irrigated lands the yield obtained from hectares of varieties in a competitive variety trial was 46.0-67.8 c / ha, while the average yield was 56.1 c / ha, then with the control variety "Zamin 1" the average yield was 53 , 0 c / ha, in Semurug - 60.4 c / ha, in KP No. 183 / 2017-

67.4 c / ha, while it was found that the grain yield was higher from 4.8 to 14.8 c / ha compared to the control variety.

The frequency of occurrence of competitive varieties with yellow rust in the test was observed from 0% to 40%. In the experiment Zamin-1, Krasnodar-99, Durдона, Gazgan, varieties and No. 83/2016, KP No. 52/2017, KP No. 83/2017, KP No. 198/2017, the occurrence of up to 10-40% yellow rust was observed.

It was found that varieties Semurug, Istiklol-20 and lines KP-153/2017, KP-197/2017, No. 219/2014, No. 29/2016 are resistant to yellow rust disease.

As a result of the research, a new variety of winter soft wheat was created - "Kipchoksuv", resistant to unfavorable conditions (heat resistance, drought resistance, salinity and diseases), high-yielding and high-quality grain for the irrigated lands of the Republic.

It is entered in the State Register of Agricultural Crops for sowing in the autumn in the Jizzakh, Kashkadara, Samarkand and Tashkent regions (Order No. 39 of December 25, 2017 of the State Variety Commission of Agricultural Crops of the Republic of Uzbekistan).

In the experiment, the grain weight of 1000 kg of the "Kipchoksuv" variety averaged from 43.1 g to 48.0 g over the years and was 5.5 g higher than the control variety, the resistance to falling asleep was 9 points, and in the control variety this indicator was 7 points. The plant yield accumulation averaged 5.8 grains, while in the control cultivar this figure was 4.8 grains, no yellow rust disease was observed in the cultivar.

Table 2
Economically valuable traits, biological and qualitative indicators of the variety "Kipchoksuv" (Galyaara. 2015-2017)

| № | Indexing | unit of measurement | Proposed variety "Kipchoksuv" | | | | Control.zoned grade "Zamin - 1" | | | | Compared to the standard, ± |
|---|--------------------|---------------------|-------------------------------|-----------|-----------|---------|---------------------------------|-----------|-----------|---------|-----------------------------|
| | | | Year | | | | Year | | | | |
| | | | 2015 | 2016 | 2017 | Среднее | 2015 | 2016 | 2017 | Среднее | |
| 1 | Earning terms | day | 17/ IV | 25/ IV | 20/ IV | - | 21/ IV | 29/ IV | 26/ IV | - | - |
| 2 | Yield | c / ha | 75,1 | 74,4 | 73,7 | 74,4 | 61,2 | 56,2 | 64,3 | 60,5 | 13,9 |
| 3 | Weight 1000 pcs | G | 43,1 | 46,6 | 48,0 | 45,9 | 39,4 | 40,4 | 42,5 | 40,7 | 5,2 |
| 4 | Lodging resistance | score | 9 | 9 | 9 | 9 | 7 | 7 | 7 | 7 | |
| 5 | Productive meal | piece | 5,4 | 6,0 | 6,2 | 5,8 | 4,3 | 5,0 | 5,2 | 4,8 | 1,0 |
| 6 | Morbidity (rust) | % | R | R | R | R | MR | MR | MR | | |
| 7 | Volume weight | g/l | 772,2 | 776,4 | 780,1 | 776,2 | 765,2 | 768,5 | 771,2 | 768,3 | 7,9 |
| 8 | Amounts of gluten | % | 30,1 | 31,8 | 32,3 | 31,4 | 29,8 | 31,5 | 30,4 | 30,5 | 0,9 |

| № | Indexing | unit of measurement | Proposed variety "Kipchoksuv" | | | | Control.zoned grade "Zamin - 1" | | | | Compared to the standard, ± |
|---|-----------------|---------------------|-------------------------------|------|------|---------|---------------------------------|------|------|---------|-----------------------------|
| | | | Year | | | | Year | | | | |
| | | | 2015 | 2016 | 2017 | Среднее | 2015 | 2016 | 2017 | Среднее | |
| 9 | Protein amounts | % | 12,6 | 14,3 | 15,1 | 14,0 | 11,6 | 14,6 | 13,5 | 13,2 | 0,8 |

The grain size weight was 776.2 g / l for the Kipchoksuv variety, which was found to be 768.3 g / l for the control variety.

2. CONCLUSIONS

In this variety, it was determined that the amount of gluten in cereals averaged 31.4%, in the control variety - 30.5%, in the protein on average 14.0%, in the control variety - 13.2%.

3. REFERENCES:

- [1] Amanov A. Selection and seed production of wheat in Uzbekistan. Materials of the 1st Central Asian conference on wheat. Almaty. 2003.-С..3.
- [2] Morgunov A., H. Brown, M. Mossad, R. Paroda. International Wheat Cooperation in Central Asia: Results and Prospects. 1st Central Asian Wheat Conference. Materials. Almaty, 2003.-P.10.
- [3] Udachin RA, Shakhmedov IS Wheat in Central Asia. - Tashkent, Uzbekistan: Central Asian branch of the All-Union Scientific Research Institute of Plant Industry named after V.I. N. I. Vavilova (VASKhNIL). - 1984.
- [4] Siddikov R., Khalikulov Z., Amanov A. And Sharma R.C. Status of wheat improvement in Uzbekistan. Abstracts 1st regional winter wheat symposium, Increasing productivity and Sustainable Production. 25-27 June, 2011. Tabriz, Iran. p.50-51.