ISSN 3060-4567

COMPETITIVENESS AND SPECIFIC FEATURES OF THE VEHICLES AND SYSTEMS STUDIED AT THE NEW TESTING FIELD

Farmonova Sabina Xakim qizi, Jo'rayeva Sevara Olim qizi,
Raxmatova Jumagul Bosimbek qizi.
Jizzakh State Pedagogical University

Abstract. *To create high-yielding short-stemmed varieties of winter wheat that are resistant to diseases and environmental conditions and have high productivity potential, it is necessary to study the source material on the basis of which new breeding varieties can be created.*

Relevance and necessity of the topic. *Increasing the yield and quality of cereal crops, in particular soft wheat, in strengthening the economy of our country and ensuring food security is one of the most important tasks in the field of grain production today.*

The growing global demand for bread and bakery products is further increasing the strategic importance of cereals, especially wheat. According to forecasts of international organizations, the annual global grain production volume is about 2 billion 450 million tons, of which 2 billion 194 million tons are cereals (wheat, rye, barley, oats, triticale, rice, corn, sorghum, millet), and 256 million tons are legumes.

After gaining independence, Uzbekistan significantly increased the volume of grain production and today has become one of the countries exporting it. As a result of systematic measures taken to increase grain productivity in agriculture, the republic produced 6 million 124 thousand tons of wheat in 2018, and 8 million 377 thousand tons in 2019.

Currently, wheat is grown in about 130 countries around the world. The largest producers include the USA, Russia, Ukraine, France, Italy, Spain, Poland, China, Syria, Iraq, Kazakhstan and Uzbekistan.

ISSN 3060-4567

Therefore, the creation of short-stemmed, non-lodging, disease and pest-resistant, and high-yielding varieties of soft wheat is of great scientific and practical importance.

The purpose of the research. To create short-skinned, non-lodging, disease and pest-resistant, and high-yielding varieties of soft winter wheat in the conditions of irrigated lands of Uzbekistan, to scientifically substantiate their biological properties and improve the seed production system.

Research objectives.

- Selectively study the varieties of soft wheat from the world collection of soft wheat from different geographical regions according to their morphological, biological and economically valuable characteristics.

- Selection of short-skinned soft wheat varieties with high-yielding, valuable economic characteristics and quality indicators.

- Determination of the heredity-related aspects of the inheritance of yellow rust resistance traits in long-distance geographic forms of soft wheat (F1-F2 hybrid generations).

Research object. The study used samples of wheat varieties obtained from international scientific centers and a number of research institutes. In particular, samples were selected from ICARDA (International Center for Agricultural Research in Arid Regions), CIMMYT (International Maize and Wheat Research Center, Mexico), Odessa Institute of Breeding and Genetics (Ukraine), Russian Research Institute of Plant Science, Krasnodar Research Institute of Agriculture and I.G. Kalinenko All-Russian Research Institute of Grain Crops.

Research methods. Experiments conducted in the field and in laboratory conditions were carried out according to the accepted methodology. Observations, calculations and analyses were carried out based on the manual of the Research Institute of Plant Science (1984) and “Methods of conducting field experiments” (UzPITI, 2007). The accuracy and reliability of the data obtained were determined by B.A. The mathematical and statistical analysis method developed by Dospekhov (1985) and Microsoft Excel software were used to examine the data.

ISSN 3060-4567

Research results. In the control plot, some of the 130 soft wheat varieties were early maturing, and 83 were distinguished by their resistance to yellow rust. In particular, high yields and disease resistance were noted for varieties No. 36/2018, No. 22/2018, No. 71/2018, No. 67/2018 and No. 91/2018.

In competitive variety tests, the Semurug variety and varieties KP No. 183/2017, KP No. 52/2017, KP No. 83/2018, KP No. 85/2017, KP No. 125/2017, KP No. 184/2017 had high yields and high adaptability to drought, heat and diseases.

As a result of scientific research conducted at the competitive variety testing site:

- The average weight of 1000 grains was 44.1 g, and the grain volume was 813.5 g/l.

- For the control variety "Zamin-1", these indicators were 41.2 g and 802.1 g/l, respectively.

- For the Istiklol-20 variety, this indicator was 46.2 g, and for the Semurug variety, it was 54.6 g.

- The following ridges showed high results: KP No. 183/2017 (47.4 g), No. 158/2014 (48.5 g), No. 29/2017 (44.8 g), KP No. 83/2017 (48.5 g), KP No. 85/2017 (48.2 g), KP No. 153/2017 (47.7 g), KP No. 184/2017 (48.2 g).

In the competitive variety test area, the grain density of wheat ranged from 777.1 g/l to 836.6 g/l, and the following varieties achieved the highest results:

- KP No. 183/2017 – 836.6 g/l
- KP No. 83/2016 – 836.2 g/l
- KP No. 52/2017 – 836.6 g/l
- KP No. 184/2017 – 833.5 g/l

These ranges recorded significantly higher indicators compared to the control variety "Zamin-1" (802.1 g/l).

When analyzing the valuable economic characteristics of soft wheat varieties and lines studied in the competitive variety testing area, it was found that the control variety “Zamin-1” had a grain weight of 41.2 grams per 1000 grains, a grain volume of 802.1 g/l, and a yield of 53.0 t/ha. At the same time, other varieties were also

ISSN 3060-4567

studied and their efficiency indicators were evaluated. For example, the grain weight of the "Krasnodar-99" variety was 36.0 grams per 1000 grains, a grain volume of 801.5 g/l, and a yield of 46.0 t/ha. In the "Durdona" variety, these indicators were 36.3 grams, 821.3 g/l, and 47.3 t/ha, respectively.

Among other varieties, the 1000-grain weight of the "Istiklol-20" variety was 46.2 grams, the grain volume was 795.7 g/l, and the yield was 54.7 t/ha, while the "Semurug" variety had these indicators of 54.6 grams, 797.4 g/l, and 60.4 t/ha, respectively. Also, the KP-183/2017 variety had high results with a 1000-grain weight of 47.4 grams, a grain volume of 836.6 g/l, and a yield of 67.4 t/ha.

In the No. 158/2014 ridges, the weight of 1000 grains was 48.5 grams, the grain volume was 817.9 g/l, and the yield was 55.2 t/ha, while in the No. 219/2014 ridges, the weight of 1000 grains was 43.4 grams, 820.1 g/l, and 57.0 t/ha, respectively. In the No. 29/2016 ridges, the weight of 1000 grains was 44.8 grams, the grain volume was 829.4 g/l, and the yield was 60.3 t/ha.

In addition, in the No. 83/2016 ridge, the weight was 43.9 grams, 836.2 g/l, and 51.2 t/ha; in the KP-52/2017 ridge, the weight was 43.9 grams, 836.6 g/l, and 63.1 t/ha; The results of the KP-83/2017 range were 48.5 grams, 832.3 g/l and 60.1 ts/ha; the KP-84/2017 range was 43.4 grams, 822.4 g/l and 49.2 ts/ha; the KP-85/2017 range was 48.2 grams, 810.7 g/l and 63.9 ts/ha; the KP-125/2017 range was 39.5 grams, 777.4 g/l and 57.8 ts/ha; the KP-153/2017 range was 47.7 grams, 819.1 g/l and 54.4 ts/ha; and the KP-184/2017 range was 48.2 grams, 833.5 g/l and 67.8 ts/ha.

In general, according to the results of this study conducted under irrigated conditions, the yield by variety and ridge varied from 46.0 to 67.8 t/ha, with an average yield of 56.1 t/ha. Compared to the control variety "Zamin-1", some varieties and ridges showed higher yields from 4.8 to 14.8 t/ha. In particular, ridges KP-183/2017, KP-52/2017, KP-85/2017 and KP-184/2017 were found to have higher yields.

LIST OF REFERENCES USED

1. Berdikulov Khudoyshukur Keldiyorovich, Negmatova Surayyo Teshaevna, Normat Durdiev Khasanovich, & Artikova Lola Soatovna. (2024). THE

ISSN 3060-4567

SIGNIFICANCE OF BIO-STIMULATORS IN NON-TRADITIONAL CROP GROWING. The Bioscan, 19(Special Issue-1), 356–360.

2. Keldiyorovich, B. K. (2024). THE EFFECT OF STIMULANTS ON CROTALARIA HAY YIELD AND QUALITY INDICATORS. Cotton Science, 4(1).

3. Бердиқулов, Х. К., Ортиқова, Л. С., & Негматова, С. Т. (2024). КРОТАЛАРИЯ КЎК МАССА ҲОСИЛИГА БИОСТИМУЛЯТОРЛАРНИНГ ТАЪСИРИ. Science and innovation, 3(Special Issue 21), 93-97.

4. Keldiyorovich, B. X. (2023). Species of the Genus Crotalaria L. and Their Biological Significance. Web of Agriculture: Journal of Agriculture and Biological Sciences, 1(4), 1-7.

5. Keldiyorovich, B. X., & Khushnazarova, N. D. (2023). BIOGEN STIMULATORS DESCRIPTION AND CLASSIFICATION, TECHNOLOGY.

6. Keldiyorovich, B. K., & Khushnazarova, N. D. BIOLOGY ECOLOGY AND ECONOMIC IMPORTANCE OF CROTALARIA JUNCEA.

7. Keldiyorovich, B. K. (2024). THE EFFECT OF STIMULANTS ON CROTALARIA HAY YIELD AND QUALITY INDICATORS. *Cotton Science*, *4*(1).

8. Бердиқулов, Х. К., Ортиқова, Л. С., & Негматова, С. Т. (2024). КРОТАЛАРИЯ КЎК МАССА ҲОСИЛИГА БИОСТИМУЛЯТОРЛАРНИНГ ТАЪСИРИ. *Science and innovation*, *3*(Special Issue 21), 93-97.

9. Keldiyorovich, B. X. (2023). Species of the Genus Crotalaria L. and Their Biological Significance. *Web of Agriculture: Journal of Agriculture and Biological Sciences*, *1*(4), 1-7.