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Wheat Breeding Research In The Zarafshan Oasis Of The Republic Of Uzbekistan

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ABSTRACT

The article describes the results of research on the selection of varieties suitable for the soil and climatic conditions of the Republic of Uzbekistan based on the study of samples of the world collection of wheat in the breeding process and the creation of new varieties and primary selection by mixing them with one variety.

KEYWORDS

Selection and seed production, yield, early maturity, source material, intensive variety, varietal samples, hybridization, heredity, grain quality, strong and valuable, yield.

INTRODUCTION

In recent years, potential varieties of soft winter wheat for irrigated lands of 80-100 t / ha, high-quality grain, disease and pest resistant varieties have been created in the Republic of Uzbekistan, which have a significant impact on increasing grain production and increasing the productivity of farms. However, the bulk of the grain grown in the country is sold at third-grade purchasing prices. This indicates that in the selection and technology of growing wheat, along with yield, great attention should be paid to indicators of grain quality. Abundant and high-quality wheat cultivation is carried out through the use of cultivation technology in

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accordance with the biological characteristics of the variety, the soil and climatic conditions of the region. increased.

In recent years, we have been working in the State Register of the Republic of Uzbekistan to create the first materials for the creation of intensive varieties of soft wheat, resistant to rust, adverse environmental factors, resistant to irrigation and fertilization, meeting the requirements of high-yielding, valuable wheat. We examined over 1000 samples of soft and durum wheat from the Institute and international organizations ICARDA and CIMMYT.

During the selection process, on the basis of the study of samples of world wheat collection, varieties suitable for our soil and climatic conditions were selected and mixed in order to combine their valuable economic and biological characteristics in one variety, new varieties were created by selection of hybrids.

Mixed combinations F1 - F4 hybrid joints were studied, high-yield, early-maturing, disease- and pest-resistant, high-quality lines were selected by individual selection, and have been studied for years in selection, control (control), competition (competition) seedlings.

MATERIALS AND METHODS

Materials. In the study, the International Centers for Soft Wheat Breeding ICARDA and CIMMYT and the Plant Research Institute provided an collection of 1,200 soft and hard wheat varieties and samples of Krasnodarskaya-99 intensive type included in the State Register of the Republic of Uzbekistan as standard varieties.

Methods. Observation, calculation and analysis in research work "Methods of conducting field experiments" (UzPITI, 2007), biometric analysis by the method of the State Commission for Variety Testing of agricultural crops (1985; 1989), , pollination was carried out by the Tvell method developed at the CIMMYT International Center. In the hybrids obtained in the degree of superiority (Hp), the indicators of heredity, the formula of F. Peter and Frey (1966) were used to determine the elements of fertility. The degree of dominance and the law of heredity D.W.Crumbaker, the degree of correlation Mordekey Kara. Detected by Fox method. The amount of protein in the grain was determined by the Keldal method, the gluten content by the washing method, the sedimentation rate by increasing the dough in acetic acid by the method developed by E.I. Pumpyan (1971).

Evaluation of disease resistance of cultivars studied in the experiment was determined as a percentage on a scale developed at the International Center for Agricultural Research in the Dry Areas (ICARDA).

RESULTS AND THEIR ANALYSIS.

Scientific research was conducted in 2015-2020 in the experimental field of the scientific seed farm "Farboma selekt" located in the territory of Zarafshan MMTP Jambay district of Samarkand region.

The research topic is included in the plan of scientific research of Samarkand Agricultural Institute and QXA-8-028 8-007-2015 was carried out as a separate section of research on "Creation of varieties of winter wheat for irrigated lands of intensive type, high-yielding, high grain quality and meeting the requirements of valuable wheat."

The ability of a plant to respond to various stresses depends on its genetic capacity, i.e. the periods of plant growth and their duration. For example, if a plant is exposed to cold during the accumulation phase, the

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accumulation often does not affect the subsequent development of the plant because the accumulation joint is healthy. If the cold strikes during the sprouting or pruning period, the plant may die and the spike will not come out, resulting in reduced yields. The duration of the plant growth period is determined by the natural variability of the variety and also depends on the growing conditions.

A study of collection specimens shows that the duration of the plant growth period is an important indicator. As a result of studying the soil samples based on the soil and climatic conditions of our experiments, we divided the varieties into 3 groups of early-ripening 222 days, medium-ripening 230 days and late-ripening 238 days.

The demand for early-maturing, high-yielding, disease- and pest-resistant soft wheat varieties to harvest twice a year from agricultural crops is increasing day by day. Therefore, the main direction for irrigated lands remains the creation and introduction into production of fast-ripening varieties of soft wheat with valuable economic biological properties.

The creation of fast-ripening soft wheat varieties is one of the most important problems of selection. The creation of varieties with short growing seasons will increase productivity in agriculture at the expense of many problems in agriculture, including replanting of vacant lands from wheat fields.

The productivity of fast-ripening varieties depends not only on the rapid development, but also on the rapid accumulation of dry matter and the efficiency of the assimilation apparatus. One of the important directions of selection is selection aimed at the duration of the growing season. In general, the creation of early maturing varieties is of great importance for the irrigated lands of Uzbekistan.

Table-1
Growth period of early maturing varieties and specimens, (Samarkand 2015-2017)

№	Name of varietal samples, origin	Growth period, days			
		2015	2016	2017	Average
1	Krasnodarskaya -99(St)	229,1	231,5	230,8	230,5
2	6755 (France)	220,6	222,1	221,9	221,5
3	5347 (Pakistan)	219,7	221,3	220,1	220,4
4	8927 (India)	217,9	220,2	219,4	219,2
5	4788 (Turkey)	218,8	220,5	219,3	219,5
6	2383 (India)	219,5	221,2	220,6	220,4
7	7316(Afghanistan)	217,8	219,2	219,0	218,7
8	2901(Afghanistan)	218,3	220,1	219,9	219,4
9	496 (Pakistan)	220,7	222,5	221.3	221.5
10	6720м/NPA-38/Wpm/3/69/48/	221,4	223,2	222,5	222,4
11	SEKSAKA7/3/SHUHA 2/N 3732/HER	223,1	224,9	223,6	223,9
12	CROS-1/AE.SQUARROSA/224	220,5	222,1	221,7	221,4

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13	BONA 1/FNGKAAG 15/MASSIRA	218,4	220,1	219,8	219,4
14	HAAMA-2/QAFZAH-16	220,5	222,2	221,4	221,4
15	ANGI-5/ZEMAMRA-8	222,3	223,5	222,6	222,8
16	Entry-6	217,8	220,3	229,5	222,5
17	BEBWAH-12/ ZEMAMRA-8	219,6	221,2	220,2	220,7
18	AUBARA-16/2*SOMAHAMA-3	221,3	222,4	221,7	221,8
19	HUBARA-3/SHUNA-4	221,9	223,6	222,2	222,6
20	N248 (Uzbekistan)	219,1	220,4	220,0	219,8
21	N249 (Uzbekistan)	218,6	220,1	219,7	219,5
22	Kuma (Russia)	220,6	222,1	221,3	221,3
23	Chillaki (Uzbekistan)	222,2	223,5	222,9	222,9
24	Zarafshon (№28) (Uzbekistan)	221,3	222,9	222,6	222,3
25	Jayxun (Uzbekistan)	223,4	225,1	224,5	224,3
26	Khazrati Beshir (Uzbekistan)	223,7	225,4	224,2	224,5
27	Mars-1 (Uzbekistan)	222,8	224,3	223,7	223,6
28	Bobur (Uzbekistan)	223,5	225,5	224,2	224,4

As a result of the experiment, the following early varieties were selected. The studied cultivars were compared with the standard Krasnodarskaya-99. In the standard Krasnodarskaya-99 variety, the growing period was 229 days. Compared to standard grade 6755 (France), 5347 (Pakistan), 8927 (India), 4788 (Turkey), 2901 (Afghanistan) 496 (Pakistan), 6720m / NPA-38 / Wpm / 3/69/48 /, SEKSAKA7 / 3 / SHUHA 2 / N 3732 / HER, CROS-1 / AE.SQUARROSA / 224, BONA 1 / FNGKAAG 15 / MASSIRA, HAAMA-2 / QAFZAH-16, ANGI-5 / ZEMAMRA-8, Entry-6, BEBWAH-12 / ZEMAMRA-8, AUBARA-16/2 * SOMAHAMA-3, HUBARA-3 / SHUNA-4, N248, N249, Kuma, Zvezda, Chillaki, Jayhun, Mars-1, Hazrati Beshir, Bobur variety samples 5-12 days ago was cooked.

Wheat deposits can often occur before milk ripens or even earlier. In this case, the plant will shade each other. The slowing down of photosynthesis as a result of lying down causes the grain to become empty or fine. The fact that the wheat plant lies dormant during the ripening period makes it much more difficult to harvest the grain.

Sleeping can also be caused by strong winds when it is raining. The strength of the root system also plays a big role in increasing resistance to lying down.

When lying down, the plant stem twists or breaks. Along with grain loss, it leads to a decrease in grain quality and the development of various diseases. In the seeds of plants that lie dormant until the grain is fully ripe, there can be no whole grain or the grain is crushed. Lying plants are difficult to harvest. Bedding plants create conditions for the good development of diseases. Diseases and insects usually damage the weakened stems. Even the grain may be very fine or not at all.

It is possible to prevent the plant from lying down by changing the stem, root structure and their strong vigor. The following can be

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considered when increasing resistance to falling asleep:

Short, energetic stem;

The root system is strong and well established in the soil;

The stem is twisted and does not break when twisted;

The resistance of the weakened stem or root system to diseases and pests.

In selection, there is a negative correlation between the height of the stem and its resistance to lying down.

Among the cultivars studied during the study, it was observed that SEKSAKA 7/3 / SAUNA-2 / N3732 / HER, HAMAM-5 / ANCL-3, SAMiRA-7, BAANANA1 / 3 / NS7332 / HEB cultivars were resistant to lodging and the selected cultivar the samples are recommended to breeders as a starting material for future use in the selection process (Table 2).

(Table 2).
Samples of soft wheat varieties that are resistant to lodging,
(Samarkand 2015-2017)

№	The name of the variety specimens	Plant height, cm				Resistance to lying down, (points)
		2015 M±m	2016 M±m	2017 M±m	Average M±m	
1	Krasnodarskaya 99(St)	93,8	95,4	94,6	94,6	9
2	HAMAM-5/ANCL-3	83,7	85,2	84,7	84,5	9
3	SAMiRA-7	84,8	86,3	85,6	85,9	9
4	SEKSAKA 7/3/SAUNA-2/N3732/HER	86,9	88,1	87,6	87,5	9
5	BAANANA1/3/NS7332/HEB	89,2	90,0	89,7	89,6	9
6	Mehipok (chek 1)WYR	88,6	89,3	89,1	89,0	9
7	QAFZAA-81/SOOMAHAMO-4	89,4	91,2	90,8	90,5	9
8	Chillaki	92,5	94,3	93,7	93,5	9
9	Jasmina	84,8	86,5	85,7	85,7	9
10	Farboma	88,8	90,2	89,5	89,5	9
11	Amira	87,3	88,7	88,1	88,0	9
12	Zarafshon	88,6	90,2	91,3	90,1	9
13	Thunder	80,7	82,3	81,7	81,6	9
14	Kroshka	88,2	90,6	89,8	89,5	9
15	Palpich	80,3	82,8	81,5	81,5	9
16	Kuma	86,8	88,3	87,9	87,7	9
17	Tanya	89,2	91,1	90,4	90,2	9

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IMPACT FACTOR
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18	Note	92,9	94,5	93,7	93,7	9
19	Vostorg	88,6	90,1	89,5	89,4	9
20	Yuka	90,7	92,3	91,6	91,5	9
21	Kuyalnik	91,3	92,8	92,0	92,0	9
22	Poshana	92,4	94,6	93,7	93,6	9
23	Xisorak	83,1	84,8	83,6	83,8	9
24	Jayxun (Zamin-1)	89,5	91,7	90,9	90,7	9
EKF, sm					2,2	

Compared to the standard variety, some 2958 (Afghanistan), 8925 (India), 2312 (India), 6348 (Armenia) varieties differed in their resistance to lying down and their height. With the increase in plant height, an increase in plant dormancy was observed in varietal samples. Decreased yields were observed in all dormant cultivar specimens. When we examined the correlational correlation, it was found that there was a negative correlation between plant height and dormancy resistance.

For irrigated areas, 166 varietal lines of soft wheat isolated from a biological fall collection collection nursery and 17 F-3 hybrid combinations from a hybrid nursery were planted in the first year selection nursery, one tier each or line 0.5m2 area irreversibly in October. The standard variety was Krasnodarskaya - 99 varieties.

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From the selection nursery, 39 varieties and new varieties with a growing period of 199 to 234 days, a yield of 59.2-87.5 ts / ha and a grain weight of 39.9-44.3 g per 1000 grains were selected and transferred to the control nursery.

Table 3
The main indicators of the ridges (lines) in the selection nursery of winter soft wheat selected from F-2 (Samarkand 2016-2017)

№	Variety name, center of origin varietal or line	Vegetation period, days	Productivity, s / ha	1000 grain weight, gramm
♀ Umanka x ♂ Ridges from N 248				
1	1/2 a	223	77,7	42,4
2	3/2 v	225	78,6	42,7
3	4/5 g	221	75,4	42,5
4	5/3 d	221	76,0	43,1
5	7/3 e	222	73,2	42,2
6	8/3 j	224	78,4	43,3
♀ Umanka x ♂ Krasnodarskaya - ridges from 99				
7	1/3 a	228	81,2	43,4
8	3/4 v	225	79,4	43,1
9	4/3 g	230	80,6	43,8
♀ Tanya x ♂ Sanzar - ridges from 8				
10	4/1 g	226	83,1	43,1
11	1/4 a	228	84,3	43,7
♀ Tanya x ♂ Ridges from N 247				
12	3/2 v	224	81,2	42,6
13	4/5 g	225	82,7	43,2
14	6/3 e	225	83,0	43,0
♀Жасмина x ♂ Ridges taken from Tanya				
15	2/2 b	233	85,4	44,2
16	4/1 g	235	86,7	44,6
♀Жасмина x ♂ Ridges from Umanka				
17	2/3 b	230	88,3	44,4

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IMPACT FACTOR
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18	4/5 g	231	87,5	44,0
19	6/2 e	321	88,2	44,1
♀Краснодарская-99 x ♂ Ridges taken from Tanya				
20	2/2 b	233	77,8	42,8
21	3/4 v	234	79,1	43,2
22	4/2 g	232	78,5	43,4

Data on the growth period, yield and weight of 1000 seeds of the ridges (lines) in the selection nursery of hybrids selected from F-2 are given. The ridges from ♀Tanya x ♂247, ♀Jasmina x ♂Umanka show good results. Selection work between the lines is underway.

The main indicator in the breeding nursery is focused on productivity. The selection process was based on the results of statistical analysis.

The highest yield in the breeding nursery was 88.3 ts / ha, while the lowest yield was 73.2-ts / ha. The yield of the standard variety was 64.5 ts / ha.

In 2017, the yield of ridges in the breeding nursery changed from 73.2 t / ha to 88.3 t / ha. Selection work on the resistance of the systems to disease, bed rest and adverse factors of nature is underway.

The amount of protein in wheat grains tends to vary depending on growing conditions. Most studies have made it possible to identify a number of general patterns. Grain quality is determined by 3 main factors, including general conditions of cultivation, meteorological conditions during the growing season and individual characteristics of the variety.

Table 4

Results of the analysis of biochemical composition of wheat grains, protein and gluten content, quality and quality of grain, physical quality of grain of newly created varieties and hybrids

(Samarkand 2016-2017)

№	Variety name, center of origin varietal or line	N amount,%	Protein content,%	Gluten content,%	Volume of bread covered with 100 g of it, cm3	1000 grain weight, g	Natural of grain, g\l	Grain vitreous,%
1	Jasmina	2,50	14,3	30,2	560	44	820	81
2	Amira	2,48	14,2	28,8	571	41	810	76
3	Farboma	2,51	14,4	29,3	577	42	815	79

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♀ Umanka x ♂ Ridges from N 248								
4	1/2 a	2,52	14,4	28,9	555	42	810	77
5	3/2 v	2,54	14,5	30,2	552	42	812	76
6	4/5 g	2,56	14,6	32,1	545	41	807	76
7	5/3 d	2,48	14,1	28,4	540	43	816	77
8	7/3 e	2,51	14,3	28,7	558	42	814	75
9	8/3 j	2,52	14,4	30,1	572	42	810	77
♀ Umanka x ♂ Krasnodarskaya- 99 ridges								
10	1/3 a	2,48	14,1	29,0	544	41	812	79
11	3/4 v	2,53	14,4	30,6	559	42	815	80
12	4/3 g	2,54	14,5	31,2	567	42	812	79
♀ Tanya x ♂ Sanzar - ridges from 8								
13	4/1 g	2,45	14,0	28,5	546	42	808	77
14	1/4 a	2,46	14,0	28,4	548	42	811	76
♀ Tanya x ♂ Ridges from N 247								
15	3/2 v	2,42	13,8	28,7	545	41	808	74
16	4/5 g	2,46	14,0	28,9	550	42	813	76
17	6/3 e	2,45	14,0	28,8	551	42	810	75
♀ Jasmina x ♂ Ridges taken from Tanya								
18	2/2 b	2,48	14,1	28,7	554	43	816	80
19	4/1 g	2,47	14,1	28,8	555	43	815	79
♀ Jasmina x ♂ Ridges from Umanka								
20	2/3 b	2,49	14,2	29,2	560	44	821	81

According to the results of field experiments in the laboratory analysis of wheat varieties and hybrids (lines) on the biochemical composition of wheat grains, protein and gluten content, quality and quality of bread, among the newly created wheat varieties and hybrids in the following number of hybrids 4/5 g, 5 / 3 d, 1/3 a, 4/1 g, 1/4 a, 3/2 v The amount of N, the amount of protein, the amount of gluten meets the requirements of strong wheat, the volume of bread covered only 100 g of it, according to the requirements of cm3 other varieties and had a lower rate than hybrids.

Conclusions. As a result of studying the world collection, the varieties include Yaksart, Chillaki, Amira, Mars-1, Jayhun (Zamin1), Sherdor, Zarafshan, Shavkat, Turkestan, Babur, № 34, №36, № 19, № 7, № 26, № 27, № 28, 6720m / NPA-38 / Wpm / 3/69/48 /, SEKSAKA7 /

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3 / SHUHA 2 / N 303 / HEB, BONA 1 / FNGKAAG 15 / MASSIRA, BEBWAH-12 / JEMAMRA-8, REYNA-27, AUBARA -16 / 2 * SOMAHAMA-3, HUBARA-3 / SHUNA-4, 6755 (France), 140 (India), 4788 (Turkey), 6845 (Pakistan), 2383 (India), I-8, IX-7, Varieties IX-10, I-15, I-14, IV-3, IX-13, II-7, III-3 belong to the group of early maturing varieties and all of them ripen 5-14 days earlier than varieties imported from Russia and other foreign countries. .

In the study, 23 specimens of dormant varieties were identified, in which the average plant height varied from 81.5 to 93.7 cm over a 3-year period. Variety samples recorded by breeders in the creation of bed-resistant, short-stemmed, intensive-type soft wheat varieties may be the starting point for selection.

39 varieties and new variety lines with a growing period of 199 to 234 days, a yield of 59.2-87.5 ts / ha and a grain weight of 39.9-44.3 g per 1000 grains were selected and transferred to the control nursery.

The highest yield in the breeding nursery was 88.3 ts / ha, while the lowest yield was 73.2-ts / ha. The yield of the standard variety was 64.5 ts / ha.

Data on the growth period, yield and weight of 1000 seeds of the ridges (lines) in the selection nursery of hybrids selected from F-3 are given. The ridges from ♀Tanya x ♂247, ♀Jasmina x ♂Umanka showed good results.

In the hybrid ridges of the following number, the amount of 4/5 g, 5/3 d, 1/3 a, 4/1 g, 1/4 a, 3/2 v N, the amount of protein and gluten met the requirements of strong wheat.

The World Wheat Collection has selected more than 25 cultivars for irrigated lands, which are productive and productive, have high grain quality and meet the requirements of valuable wheat, resistant to lodging, rust diseases and adverse environmental factors. .

As a result of the research, soft wheat varieties “Jasmina”, “Farboma”, “Amira”, “Zarafshon” were created, included in the Republican Agricultural Register, patents were obtained for these varieties, and primary breeding of these varieties was established at the scientific seed farm “Farboma Selekt”.

REFERENCES

1. Abdukarimov DT Grain selection and seed production. Textbook. Tashkent-2010.
2. Dospexov B.A. Methodology of field opyta. - M .: «Agropromizdat», 1985.- 361p.
3. Khalilov N.X, Bobomirzaev P.X. Wheat (monograph) Samarkand-2011.- 299.
4. The State Register of agricultural crops recommended for planting in the territory of the Republic of Uzbekistan, Tashkent-2015-2018.
5. Dorofeev V.F. Selection of skorospelyx varieties. Problems and source material. S-x. biol. 1976. T / r10. S.12-20.
6. Gaybullaev S.G. Selection myagkoy pshenitsy v oroshaemyx zemlyax Selection semenovodstvo i agrotechnics zernovyx zernobobovyx i kormovyx kul'tur. Tashkent 1981. S.66
7. Nurbekov A.I. Study of soft wheat varieties in irrigated lands of Uzbekistan and their use as a primary source for selection. Gallaorol 2001. B.16.
8. Mirzaev O. Test results of foreign and domestic varieties. Achievements and prospects of agricultural science: international scientific conference. Tashkent, 2002. B 10.

Published: October 28, 2020 | **Pages:** 27-37
Doi: https://doi.org/10.37547/tajabe/Volume02Issue10-06

9. Khodjakulov T.uz, J.Urinov. The primary source of wheat selection. Agricultural Journal of Uzbekistan №4. 2009. B.18.

10. R.S.Sharma., Z.Khalikulov., A.Amanov., Z.Ziyadullaev., O.Amanov., Z. Ziyaev., S.Alikulov., M.Juraev., A.Muminov. High yielding winter wheat genotypes for Uzbekistan. International scientific-practical conference "Scientific basis of grain growing in Uzbekistan and prospects for its development." A collection of scientific articles. Jizzakh-2013. B 7-11.

11. Jo'raev M.A. Results of research on the creation of soft wheat varieties. International scientific-practical conference "Created scientific basis of grain growing in Uzbekistan and prospects for its development." A collection of scientific articles. Jizzakh-2013. B 22-25.

12. Khalilov N., Bobomirzaev P.X., G'aybullaev G'.S. High-yielding wheat varieties resistant to adverse environmental factors for irrigated lands. Agriculture of Uzbekistan “AGRO ILM 2 (26) -con, 2013. B. 28-29.