SELECTION TEST OF GARLIC SAMPLE K-81

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Annotation: This article presents the results of a comparative trial of the garlic variety sample K-81, identified as promising based on the study of garlic variety samples, against a control resistant variety. The trial results showed that the yield of the control variety was 28.1 tons, while the yield of the K-81 variety sample was 24.2 tons. In terms of storage quality, the K-81 variety sample demonstrated greater durability by 120–130 days compared to the control variety, leading to its designation as a storage-suitable variety, named "Termiz-2020."

Key words: garlic, K-81 variety sample, resistant, bulb, clove, clone.

Scientists from the Surkhandarya Scientific Experimental Station of the Scientific Research Institute of Vegetables, Melons and Potato Growing conducted selection work to create new varieties of garlic.

2.5- table

Description of the Garlic Resistant variety

Nav nomi	Piyozbosh vazni, g	Bitta piyozcha vazni, g	Hosildorlik, t/ga			
			umumiy	qiyosiy navga nisbatan, %	tovarbop	qiyosiy navga nisbatan, %
Yujno-fioletoviy, qiyosiy nav	60	4,1	25,9	100	22,6	100
Chidamli	70	5,2	27,4	105,8	25,0	110,6
EKTF $_{05}$ t/ga			1,4		2,4	
Sx,%			2,6		9,0	

As a result of the research, a new variety of garlic “Chidamli” was created and included in the State Register in 2015 (see Table 2.5).

The Chidamli variety of garlic is early maturing, the growing season is 215-220 days. The leaves are light green, up to 3.5-4.0 cm wide. The bulb is flat-round, the dry peel is light purple (see Figure 1).

The bulb weighs up to 70 g, the number of bulbs is 12-13, the color is white. The total yield is 25 t/ha.

The promising K-81 garlic sample was tested in 2016-2018. Passing the test To conduct the test, the land was first plowed and the garlic bulbs were planted in the ground in the first decade of September.

The period from sowing to full germination of garlic bulbs in the selection test was 16 days in the comparative Chidamli variety, and 10 days in the promising K-81 sample.

The period from full germination of garlic bulbs to the formation of flower stalks in the comparative Chidamli variety was 196 days, 209 days in the promising K-81 sample, the period from full germination to yellowing of the stems was 214 days in the K-81 sample, 230 days, and the technical maturity of onion heads was 219 days, 246 days in the K-81 sample. In addition, when comparing the comparative variety with the K-81 sample in each phenological phase in the Selection Test, various differences were observed at different stages. In particular, the period from planting to full germination of garlic bulbs in the selection test was 6 days earlier in the K-81 sample than in the comparison, the period from full germination of bulbs to the emergence of flower stalks was 13 days longer than in the comparison variety, from full germination to yellowing of stems was 16 days longer than in the comparison variety, and until the technical maturity of onion heads was 27 days longer than in the comparison variety.
In the selection test, the false stem height was 49 cm in the comparison variety Chidamli and 42 cm in K-81, a difference of 7 cm was observed in this characteristic.
The length of the flower stalk was 33 cm in the comparison variety, while the K-81 sample in the experiment was 23 cm, which was 10 cm lower than the comparison variety.

In the experimental test, a significant difference was observed between the reference variety and the K-81 sample in terms of the number of leaves per plant and leaf length and width.

2.6 - table.

Morphological description of the K-81 sample in the competition test (2016-2018)

Klonlar	Soxta poya balandligi, sm	Gul novda uzunligi, sm	Barg		
			soni, dona	uzunligi, sm	eni, sm

Chidamli, qiyosiy nav	49	33	8,8	43	3,0
K-81	42	23	11,0	46	3,1

The number of leaves in the resistant variety was 8.8 cm, the leaf length was 43 cm, and the leaf width was 3.0 cm. In terms of these indicators, the promising K-81 sample had a number of leaves of 11.0 cm, the leaf length was 46 cm, and the leaf width was 3.1 cm. When compared with the comparative variety, a difference of 2.2 cm in the number of leaves, 3 cm in the length of leaves, and 0.1 cm in the width of leaves was observed.

In the comparative resistant variety in the selection test, the height of the onion head was 3.9 cm, the diameter was 5.5 cm, and the index was 0.70. According to these signs, it recorded the same indicator as the K-81 sample.

One of the most important indicators in vegetable crops is the productivity indicators of crops. In our studies, the comparative variety Chidamli had a bulb weight of 64 g, the number of bulbs was 13, and the bulb weight was 4.6 g. In the K-81 sample, the bulb weight was 63 g, which was 1.0 g less than the comparative variety, but the number of bulbs and bulb weight were the same.

2.7-table

Onion head description of garlic variety samples (2016-2018)

Nav namunalar nomi	Piyozbosh				Piyozchalar	
	balandligi, h.sm	diametri, d.sm	indeks	vazni, g	soni, dona	vazni, g
Chidamli, qiyosiy nav	3,9	5,5	0,7	64	13,0	4,6
K-81	3,9	5,5	0,7	63	13,0	4,6

One of the valuable and important economic traits in onion plants is the number of bulbs, and the main goal of our experiment is to create varieties with a relatively small number of bulbs per bulb, but high in weight, and large bulbs. In our experimental test, the number of bulbs per bulb was 13 in the comparative Chidamli variety and the K-81 sample, and the same result was recorded.

It was observed that the promising K-81 sample studied in the competitive test was different in terms of yield and crop quality compared to the comparative variety. In the experimental test, the comparative Chidamli variety yielded 28.1 tons, while the K-81 sample yielded 24.2 tons, which is 3.9 tons less than the comparative variety.

When comparing the percentage of marketable and substandard yield to the total yield in the comparative and K-81 samples, the substandard yield in the comparative variety was 7.4%, while in the K-81 sample this figure was 0.09%. It is clear that the substandard yield was less observed in the K-81 sample.

2.8-table

Yield of garlic clones in the selection trial (2016-2018)

Nav namunalar nomi	hosildorlik, t/ga	Qiyosiy navga nisbatan, %	Tovarbop hosil, t/ga	Nostandart, tovarbop hosil, t/ga	Umumiy hosilga nisbatan, %
Chidamli, qiyosiy nav	28,1	106,0	26,0	2,1	7,4
K-81	24,2	91,3	23,3	0,2	0,09
EKTF 05 t/ga	2.26				
Sx,%	2,0				

When 10 kg of bulbs from the comparative resistant variety of garlic grown in the selection test and the K-81 sample in the test were stored in ordinary home conditions in 2016-2018, the bulbs of the comparative resistant variety grew and developed by 60% in the 3rd decade of September, and 100% in the 1st decade of October, reaching an unsuitable state. On the contrary, when the storage condition of the K-81 sample was observed, 100% marketability was maintained during the same periods. When observations on storage stability were continued, 40% in the 2nd decade of February, 90% in the 3rd decade of March, and 100 in the 1st decade of March reached an unsuitable state. It is clear from this that the K-81 variety is resistant to long-term storage and will provide the population with quality garlic products throughout the year.

According to the results of the selection test conducted in 2016-2018, the promising K-81 variety was evaluated as a storage-resistant variety with a total (24.2 t/ha) and marketable yield (96.3 %) and a shelf life of up to 9 months from harvest to full growth and development, and was given the name Termiz 2020.

In 2012-2015, 21 garlic variety samples and clones were studied for their morphobiological characteristics and properties. A promising K-81 sample was isolated from the studied variety samples. In 2016-2018, the K-81 sample was studied in comparison with the comparative Chidamli variety and was named Termiz 2020. As

a result of the conducted scientific research, it was determined that the new Termiz 2020 garlic variety is 120-130 days more resistant to storage than the comparative Chidamli variety. The long-term storage resistance of the created variety will allow garlic-growing homesteaders and farmers to store the grown product longer and sell it at a higher price, thereby earning more income.

CONCLUSION

For the first time in our country, morpho-biological and valuable economic characteristics of garlic variety samples were analyzed, as a result of which a new local variety “Termiz 2020” was created, which has valuable economic characteristics suitable for the soil and climatic conditions of our republic. The average total yield per hectare of the newly created garlic variety “Termiz 2020” was 23.3-24.6 t/ha. The average weight of the onion head was 60-65 g, the average weight of the bulbs was 4.5-5.0 g, and the number of bulbs was 13. As a result of the research, the creation of the late-ripening, well-stored variety Termiz 2020 ensured long-term storage of the product.

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