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The properties of “Khurmo” variety of cotton

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Abstract. Relevance and necessity of the research topic. Among technical crops, the most valuable crop is cotton. It is grown mainly for its fiber. Cotton fiber is the most widely used product in the textile industry, accounting for about half of the fibers produced worldwide. "Cotton is a source of income for approximately 1 billion people".

Keywords: Cotton, Khurmo, textile industry, fiber, Cotton fiber

1. "China and India (about 23% of the total production), the USA (about 16.5%), Brazil (about 8%) and Uzbekistan are the leading countries in the production of raw cotton. in turn, it produces about 3 percent of the world's cotton."

2. Creating cotton varieties that fully meet the requirements of the textile industry in the world and are resistant to various biotic and abiotic factors is one of the urgent issues of today.

Scientists of the world are conducting research on the creation of high-yield varieties of cotton that are resistant to various pests and diseases, have high fiber yield and quality, are suitable for mechanized harvesting, and are suitable for different soil and climatic conditions. Despite this, in recent years there has been a decline in cotton production around the world, and according to experts, the reason for this is unfavorable weather conditions, water shortages and pest problems. As a solution to these problems, scientists are achieving high results in the field of agriculture using innovative methods of selection, i.e. marker-based selection (MAS) and biotechnological methods such as RNA interference. In our republic, two types of cotton, medium fiber (Gossypium hirsutum L.) and fine fiber (G. barbadense L.), are grown in cotton fields. Although fine-fiber cotton varieties are characterized by high fiber quality, cotton varieties belonging to this type are adapted to a hot climate and are grown only in our southern regions. At the same time, yield and fiber output are somewhat lower than those of medium fiber cotton varieties. "Medium-fiber cotton varieties, which supply more than 95 percent of the world's cotton fiber share, are distinguished from other cotton varieties by their productivity and high fiber output."

Main Content Of The Research

In recent years, phylogenetic stabilization of valuable economic traits in new families and lines of medium-fiber cotton created by double hybridization by our scientists, application of materials created by complex hybridization to genetic-selection processes are among the main issues is one. In this regard, the newly created varieties are objectively evaluated as a result of studies in the State variety testing networks, and those that have recorded higher results compared to the control are ensured to be applied to production.

Brief description of the selection achievement "Khurma" variety of cotton. Biological characteristics of the variety

The medium fiber of cotton (Gossypium hirzutum L.) belongs to the species, the growth period is 117-124 days. The height of the plant is 114-118 cm, the stem is green, moderately hairy. Branches of growth 0-1 ha. The harvest branch belongs to the 1.0-1.5 type, and the first harvest branch is located in the 4-5 joints. The stem is thick and does not lie down. The leaves are medium-sized, weakly hairy, green in color. The flower is white-yellow, the anthers are white-yellow, the pods are medium-sized, oval-shaped, tipless, green, 4-5-lobed, open freely when ripe, the seed is medium-sized, ovoid, moderately hairy, gray;

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cotton does not spill. The fiber is white, the weight of cotton in one bag is 6.0-6.5 g, the yield of fiber is 37-39%, the length of the fiber is 35.2-35.6 mm, the hardness of the fiber is 4.4 g.k., the softness of the fiber is 6100 -6400 mn, fiber breaking length is 33.6 g.k/tex, micron is 4.6, average fiber length is 1.22 inches. The seed is medium-sized, oval-shaped, 1000 seeds weigh 120-126 g. The fiber has type IV and meets the requirements of world standards with its industriality. 38.7-40.0 centners per hectare can be obtained.

1-table

The origin of the "Khurma" variety of cotton

№	Name of nurseries	Years
1	AN–510 x Kyrgyz –3	2002
2	F1– F4	2003–2007
3	Single selection F5	2008
4	№ D–015. Breeding nursery	2009
5	№ D–18-03. Control test nursery	2010
6	"Khurma" variety selection nursery	2011–2013
7	The variety "Khurma" has been submitted to DNS	2014
8	The variety "Persimmon" is in DNS	2015–2018
9	A patent was obtained for the "Persimmon" variety	2020

In addition, in the creation of cotton varieties, it is necessary to pass the development phases evenly during the growing season, especially the simultaneous ripening of the plants in the cultivated area, the flowering period lasts 25-28 days, the leaves are medium-sized, five-lobed, and have a yellow color. the color is white-yellow, the shape of the leaf is toothed, the number of teeth is 10-15. The cup is medium in size and round in shape. The seed is medium in size, ovoid, moderately hairy and gray in color. It is suitable for the extreme soil-climate conditions of Khorezm region (saline soil, mineralized groundwater, water scarcity, extremely high air temperature).

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The variety "Persimmon" was created at the Khorezm Ma'mun Academy. Origin: originated by crossing "AN-510" x "Kyrgyz-3" varieties and hybrid selection. Sowing rate: 50-60 kg/ha of fertile seeds per hectare. Planting period: 2-3 days of April. The annual rate of pure nitrogen fertilizers per hectare is 285 kg per hectare, 3 times during the growing season (35% before seeding, 37% in the leaf phase and 28% in the flowering phase). Phosphorous fertilizers total 230 kg, 60 percent of which are given before planting and 40 percent in the spring phase.

References.

1. Rajabov Z., Azimov A., Abdurakhimov U. Creation of new varieties of cotton adapted to the requirements of valuable economic signs // Bulletin of Khorezm Ma'mun Academy. - Khiva, 2020, - #12. - B. 127-128.
2. Rajabov Z., Jumaniyazov F., Abdurakhimov U. Khozyaystvenno-tsennye priznaki novykh sortov i liny hlopchatnika // Newsletter of Khorezm Ma'mun Academy. - Khiva, 2021, - #1. - S 140-141.
3. Rajabov Z. Growth and development of new varieties of cotton in the conditions of soil and climate of Khorezm region and valuable economic signs // Newsletter of Khorezm Ma'mun Academy. - Khiva, 2021, - No. 4. - B. 73-75.
4. Rajabov Z. Selective value of new sorting of children // "Innovative development of science and education" international conference. - Pavlodar, Kazakhstan 2021. - S. 8-9.
5. Rajabov Z. Growth, development and productivity of the new, promising cotton variety "Khurma" in the soil-climatic conditions of Khorezm region // Collection of theses of the republican scientific conference "Modern problems of genetics, genomics and biotechnology". - Tashkent, 2021. - B 244-246.