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SCIENTIFIC ACHIEVEMENTS, ADVANCED EXPERIENCES IN COTTON VARIETIES AND COTTON FARMING

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Abstract
This article describes the promising varieties of cotton grown in Uzbekistan and their biological properties, which have achieved high economic efficiency as a result. In addition, it provides extensive information about the best practices of farms and scientific achievements in cotton cultivation.

Keywords: cotton, variety, farm, climatic conditions, fiber, thin, medium, productivity, selection, seed production, experiment, plant, farming, disease.

INTRODUCTION

In Uzbekistan, there are plains, mountains, heights, valleys, depressions, and the process of soil formation in them differs from each other. In addition, since most of the year is hot, dry and subtropical, soil formation is slow. The summer is dry, due to the high temperature, possible evaporation is 15-20 times more than the precipitation, various salts accumulate in the soil, and the soil is saline in many places.

In the plains of the territory of Uzbekistan, where the groundwater is relatively deep, the automorphic soil types are brown, gray in the foothills and hills, brown in the mountains, brown mountain-forest is located. On the contrary, there are hydromorphic soils in places where underground water is on the surface, such as meadow, swamp, swamp-meadow. Depending on the geomorphological conditions of the place (in the lower reaches of the river), hydromorphic soil types are also found in the foothills.

In particular, irrigated gray soil is widespread in Fergana, Zarafshan, Surkhandarya (Chirchik, Ahangaron valleys, Karshi and Jizzakh regions of Uzbekistan).

Agriculture is one of the leading sectors in the economy of Uzbekistan. 60% of the total population and 37% of the working population live in rural areas. In agriculture, 6017.1 thousand tons of grain, 3535.4 thousand tons of cotton raw materials, 187.4 thousand tons of rice, 894.7 thousand tons of potatoes, 3315.9 thousand tons of vegetables, as well as agricultural products such as apples, grapes, fruits, 996.3 thousand tons of meat, 4279.8 thousand tons of milk, 1859.9 million tons of crops and valuable livestock products such as wool, black leather, cocoons were grown.

53.7% of the gross domestic product produced in agriculture is obtained from farming, 43.3% from livestock. In the republic, 4.2 million hectares of land are planted with plant products, of which 3.7 million hectares are irrigated. Grain is planted on 1.6 million hectares, cotton on 1.4 million hectares, and fruits, vegetables, fodder and other crops on the remaining 1.2 million hectares. Cotton is mainly grown on irrigated lands. Cotton raw materials account for more than half of the income from the horticulture sector and

the agricultural output for export. 25% of raw cotton is processed domestically, and the remaining 75% is sold abroad as fiber.

In accordance with the decision of the President of the Republic of Uzbekistan dated March 6, 2020 "On measures for the wide implementation of market principles in the cotton sector" No created a healthy competition environment for new cotton varieties created by breeder scientists.

The analysis of raw cotton production in developed countries in 2016-2017 shows that India, China, USA, Pakistan and Brazil are among the top five cotton producers.

According to the U.S. Agricultural Marketing Service Cotton and Tobacco Program, the high-quality Deltapine brand was the most popular in the U.S. during the 2016-17 season. The second most popular brands are Bayer's Fiber Max, Dow's Fito Gen and Bayer's Stoneville. Transgenic varieties accounted for 98.7 percent of US cotton acreage in 2016.

The share of medium-fiber cotton varieties planted for the 2020 harvest in our republic is high and covers an area of more than 1 million hectares.

When analyzing the share of medium-fiber cotton varieties in the main area, it can be seen that the Sultan cotton variety is being planted in the first place, which shows positive results in terms of its quick ripening, yield and adaptability to different soil and climatic conditions. This variety covers 195,600 hectares in all regions except Bukhara and Kashkadarya regions, and its share in the main area is 18.9%.

Bukhara-102, which has high productivity, cotton weight per boll (7-8 g) and fiber output (37-38%), is in second place, planted on 128.5 thousand hectares and making up 12.4% of the main area.

The third place is taken by the Bukhoro-6 variety with high yield, cotton weight per boll (7-7.5 g) and fiber length (33-36 mm), which is planted on 70 thousand hectares and makes up 9.4% of the main area.

All cultivated varieties of cotton fall into two groups:

1. Long (thin) fiber.
2. It is divided into medium fiber types.

Long (thin) fiber varieties give fibers of type I, II, III, and fibers of type IV, V, VI are obtained from medium fiber cotton varieties. Below is a description of some varieties grown in both groups.

Varieties of medium fiber cotton with type IV, V, VI fibers.

Several varieties that have passed the State variety test and are suitable for soil and climate conditions are being planted in regions and districts.

Namangan-77.

It was created at the G.S. Zaitsev Scientific-Research Institute of Cotton Breeding and Seed Breeding and the Red gate Experimental Farm. The variety is intermediate. The growing period is 110-125 days. It is resistant to wilt disease. The weight of cotton in one sack is 5.2 g, the yield of fiber is 33.3%, the length of the staple is 33.7 mm, the breaking strength of the fiber is 4.7 gk, the metric number is 5600, the relative breaking strength is 26.2 gk/tex. The fiber is type V. Average productivity is 44 cents per hectare.

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S-6524.
It was created by hybridization at the G.S. Zaitsev Research Institute of Cotton Breeding and Seed Breeding. Mediate. Fiber length 35.2 mm, metric number 6350, breaking strength 4.5-4.6 gk, relative breaking strength 28.5 gk/tex, fiber yield 33-34%. Type IV fiber.
Yulduz.
It was created by selection by O. Jalilov at the Institute of Plant Biology of the Academy of Sciences of Uzbekistan. The growing period is 115-120 days. fiber length 33-34 mm, tensile strength 4.5-4.7 gk, relative tensile strength 26?4-27 gk/tex,. Fiber type V.
Buxoro-6.
It was created by interspecies hybridization in the Bukhara cotton-growing branch of UzPITI. Medium. The weight of cotton in a boll is 7.2 g. breaking strength 4.5-4.6 gk, relative breaking strength 28.3 gk/tex, fiber yield 36.5%.
Navbahor.
The variety was created by academician D. Musayev and Gubanova, a scientist of the Institute of Genetics and Experimental Plant Biology of Uzbekistan. It takes 118-120 days from seed germination to cotton ripening. Fiber output is 35-36%, staple length is 33-34 mm. The grain is small. Fiber type V. Productivity is on average 40 s per hectare.
Chimboy-3010.
It was created by selection by A.V.Bereznikovskaya and others at the Karakalpakstan Research Institute of Agriculture. The growing season is 115-120 days. The weight of cotton in a boll is 6.3 g, fiber yield is 37.6%, fiber length is 33-34 mm, breaking strength is 4.5-4.6 gk, relative breaking strength is 25.4-26.9 gk/tex. Fiber type V.
Type I, II, III long (thin) fiber varieties.
Ashxabod-25. It was created by D. Boboyev at the Scientific and Research Institute of Cotton Breeding and Seed Breeding of Turkmenistan. The growing season is 140-150 days. Resistant to fusarium wilt disease. The weight of the cotton in the bag is 3.0-3.3 g, the fiber yield is 34.6%, the staple length is 40-41 mm, the tensile strength of the fiber is 4.6-4.7 gk, the relative tensile strength is 37.5 gk/tex. Fiber I type
Termiz-16. This variety was created by A.G. Gavrilov, N. Kholmurodov through hybridization at the Surkhandarya branch of the Cotton Research Institute of Uzbekistan. The growing season is 119 days. The weight of the cotton in the bag is 3.2 g, the fiber yield is 33.7%, the fiber staple length is 39.1 mm, the breaking strength is 4.6-4.7 gk. metric number 6900-7200,. relative tensile strength 36.6 gk/tex. Fiber type I II. Resistant to fusarium wilt disease.
«S-8290»
Authors: Kim RG, Babayev Ya.A. and others.
Brief description of the variety:
Growth period - 115-117 days, plant height - 90-100 cm, yield - 39-42 s/ha, weight of cotton raw material in one boll - 6.0-6.1 g , weight of 1000 seeds - 120-123g, fiber yield - 35.0-36.8%, fiber length - 33.1-33.2 mm, micronaire - 4.4-4.5, fiber type - V type, fiber hardness - 4.4 g.k.

«S-6524»

- Authors: Vadim Avtonomov, A. Avtonomov, V. Ristakov and others.

Brief description of the variety:

- Growing period - 123 - 125 days
- Plant height - 105 - 115 cm
- Productivity - 40 - 46 s/ha
- Fiber output - 33.5-34.5%
- Fiber length - 34 -35.2 mm
- Fiber hardness - 4.6 gk
- Fiber relative tensile strength - 27.4 gk/tex
- The weight of cotton in one bag is 5.5-6.5 grams
- 1000 seed weight - 115-125 grams
- Microneur indicator - 4.3-4.5 1
- Fiber type – IV

- Wilt resistance - Resistant to Wilt disease. It is productive under high agrotechnical conditions, and its fiber is sold at high prices compared to other varieties. A selected variety of cotton has certain morphological and agro-economic characteristics, it is a cotton variety created and produced on the basis of the scientific method of selection in a scientific-research institution and has value from the economic point of view.

More than 10 regional selection varieties of cotton are being planted in the territories of the Republic of Uzbekistan in recent years. Namangan 77 variety is mostly grown in Kashkadarya region, Khorezm 127 variety in Khorezm region, Bukhara 6, Namangan 77, S-6524 varieties are cultivated in many regions of the republic.

It is desirable to create new varieties to a limited extent for the areas where cotton is grown, because the new varieties created by adapting to the conditions of each area are considered to be superior to the current varieties with early ripening, high yield and high fiber output, as well as disease resistance.

Best practices of farms in cotton cultivation

The use of advanced practices in cotton cultivation and its introduction into production will lead to a reduction in the cost of raw materials and an increase in farming culture. The current generation of cotton masters was formed during the 29 years of our independence. During this period, cotton-growing organizations in the form of collective farms, state farms, and companies were abolished with the honor of independence and transformed into a new system of ownership - farms. The arable land was divided into farms.

Even in unfavorable conditions, it is possible to grow a high yield of cotton only on farms that have introduced advanced practices to production. In some years, when the weather warms up or the air temperature suddenly cools down, measures such as effectively protecting cotton from strong winds or heatsels are carried out only by using advanced farming methods and new technologies of scientific achievements. can be increased. Today, among the farmers who grow cotton in all regions of our Republic, there are mature and experienced cotton farmers:

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Holmanov Davronbek Bozorboyevich is the head of multi-branch farm producing seed cotton "Gavhar Yaqubova", Toshyop village, Amudarya district, Republic of Karakalpakstan.

The farm has planted the cotton variety "S-4727" on 90 hectares and is growing a cotton crop of more than 40 centners per hectare. Also, on 30 hectares of grain fields, the "Kroshka" variety of wheat is planted, and a grain yield of 70 centners per hectare is grown. The farm grows high-quality cotton by planting elite and first-generation seeds on its land. An elite laboratory is also operating on the territory of the farm.

Sattarov Kahramon is the head of the multi-sectoral farm "Harvest - Mehnat Korki" in the village of Alam, Altinkol District, Andijan Region.

The "Sultan" variety of cotton is planted on the area of 90 hectares of the farm, and the yield of cotton is over 40 centners per hectare. The first generation of seed cotton is grown in the main part of the cotton fields.

Fazilov Husniddin Mahmudovich is the head of the multi-branch farm "Fazil - Mahmud - Shahzod", Kochalo village, Peshku district, Bukhara region.

The farm is planting the "Bukhara-6" variety of cotton on the area of 53 hectares and is growing a cotton crop of more than 48 centners per hectare.

Yakshoboyev Zakir Jorayevich is the head of multi-sectoral farm "Yazbekzod" in Pakhtakor district, Jizzakh region.

Despite the fact that they are farming on medium salinity land, the farm yields 28 quintals of cotton variety "S-6524" on 145 hectares. 55 centners of wheat per hectare is brought from 175 hectares of saline land on the side of Jizzakh Big Highway.

Sharipov Abdurashid Ismailovich is the head of multi-branch farm "Mirishkor-Ghairat-Objuvoz", Uychi district, Ghairat village, Namangan region.

The farm cultivates the "Porloq-2" variety of cotton on 43 hectares and produces 40 centners of seed cotton per hectare.

Mominov Zakir Salimov is the head of multi-sector farm "Koybokar", Madaniyat village, Pastdargom district, Samarkand region.

The farm cultivates the "Bukhara-102" variety of cotton on an area of 55 hectares and produces 45 centners of seed per hectare.

Koziboyev Ikrom Kasimjonovich is the head of the multi-branch farm "Ikrom Komron", "Oq Yol" neighborhood, Syrdaryo district, Sirdarya region.

The farm cultivates the cotton variety "S-6524" on the area of 35 hectares and produces 50 centners of seed per hectare.

Mominov Bahrom Mamarajabovich is the head of multi-sectoral farm "Madina - Ilhom qizi", village "Kunchikish", Kyziriq district, Surkhandarya region.

The farm cultivates the "Bukhara-102" variety of cotton on an area of 126 hectares and produces 42 centners of cotton per hectare.

Lolakhan Ne'matovna Murotova "Hero of Uzbekistan", head of farm "Nurli Abad", Altiariq District, Fergana Region. At the district level, cotton production is "Fergana - 1", "Fergana -3", "S - 2609", "Andijan - 35", "Namangan - 77", "Porloq", "S - 8290" He was one of the first to try his varieties.

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