МЕДИЦИНА, ПЕДАГОГИКА И ТЕХНОЛОГИЯ:
ТЕОРИЯ И ПРАКТИКА
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TAGES OF DEVELOPMENT OF COTTON BREEDING IN UZBEKISTAN.

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ANNOTATION:

As a result of many years of hard work of our breeding scientists, many high-yielding, disease-resistant, early-early varieties with low technological quality indicators were created, and agricultural crops recommended for planting in the territory of the Republic of Uzbekistan were included in the State Register. and is being planted in large areas of our country.

Key words: cotton, fiber, quality, disease, pest, drought, resistant variety, protein, starch, oil, vitamin, hybridization of long forms.

ЭТАПЫ РАЗВИТИЯ ХЛОПКОВОДСТВА В УЗБЕКИСТАНЕ.

АННОТАЦИЯ:

В результате многолетней напряженной работы наших селекционеров создано множество высокоурожайных, устойчивых к болезням, раннеспелых сортов с низкими технологическими показателями качества, а также сельскохозяйственных культур, рекомендованных к посадке на территории Республики Узбекистан. внесен в Государственный реестр. и высаживается на больших территориях нашей страны.

Ключевые слова: хлопок, волокно, качество, болезнь, вредитель, засуха, устойчивый сорт, белок, крахмал, масло, витамин, гибридизация длинных форм.

Increasing the production of cotton fiber and improving its quality is one of the main problems in cotton farming. The role of selection scientists in solving this problem is great.Currently, about 20 scientific research institutions are engaged in cotton selection in our republic [2].

Hybridization of plants belonging to different species and genera is called hybridization of long forms. For example, crossing soft wheat with durum wheat, medium fiber cotton with fine fiber cotton, sunflower with Jerusalem artichoke, common leek with Byzantine leek, cultivated potato with wild potato type. cross-species crossbreeding, wheat and rye, wheat and wheat, apple and pear, barley and elemus, potato and tomato are interspecies hybridization [3].

Hybridization of long forms in the process of selection involves the cross-breeding of a lot of valuable signs and characteristics of the initial material, creating new plants (varieties, forms) that have not existed before, with high yield, resistant to diseases, pests, cold, winter, and drought. , it is possible to create varieties (hybrids) that contain large amounts of protein, starch, oil, and vitamins [4].

All new characters and characteristics that are formed in hybrids obtained from hybridization within a species occur only as a result of various changes that occur within this species. That is, the genetic potential of the species is used. In hybridization of distant forms, ecological plasticity, resistance to adverse conditions, disease resistance and other valuable signs and characteristics are transferred to one organism (hybrid, variety) from other species and genera, from wild plants to cultivated plants, and opportunities arise to embody them [7].

There are 200,000 plant species in nature, of which only 250 species (0.12%) are cultivated species, and the remaining 99.88% are wild and semi-wild plants. Many of these have useful, useful and valuable signs and properties for a person [5].

For example, for the potato crop, Solanum tuberosum cultivars, which were planted earlier, were affected by many diseases and pests (phytophthora, viral diseases, cancer, Colorado beetle, nematode, etc.), which caused great damage to productivity. As a result of hybridization within the species, it was not possible to create resistance to these diseases and pests [6].

Joseph Gottlieb Kielreiter, an honorary academician of the St. Petersburg Academy of Sciences, was the first to establish hybridization of long forms of plants. He created hybrids by crossing 54 plant species belonging to 13 botanical families. In 1760, he published the results of his experiments in the press. He explains that the tobacco was hybridized by cross-breeding ordinary tobacco and non-standard tobacco (mahorka). As a result of his work, he was the first to observe the phenomenon of heterosis in hybrids [4].

After that, the hybridization of long forms attracted the attention of the world's largest botanists, geneticists and breeders. Sh.Darwin emphasized the importance of this issue and said that "the success of hybridization of long forms depends on the order of hybridization and the choice of parent organisms."I.V. Michurin is one of the founders of the theory of hybridization of long forms. He was the first in the history of plant breeding to use interspecies and interspecies hybridization (almond and peach, cherry and apricot, pear and apple, cherry and cherry) and created many valuable plant forms and varieties. (more than 300) created. In addition, he developed and put into practice a number of methods (overcoming lack of overlap, etc.) in the hybridization of long forms [1].

In 1888, the German breeder Rimpau was the first to obtain an interspecies hybrid by crossing wheat and rye (later it was named Triticale). S.S. Kanash's services in Uzbekistan are great in the field of hybridization of long forms. As a result of his work, the first interspecies hybrids of cotton were created.K.K. Maksimenko crossed G. hirsutum and G. tricuspidatum species and created varieties with different fiber colors (pink, green, blue) [5].

Interspecific hybridization. It creates an opportunity to get more rich in exchange for cotton. It is of great importance in the other selection of cotton, because the gene pool of its cultural forms is similar to that of most other types of species, the quality of its fiber according to the evolution of its adaptability, to the genes that control the resistance to diseases, pests, drought, salinity, low temperature and other characters. In the hybridization of long forms, it is possible to create new types and forms of plants that did not exist before, involving a lot of valuable characters and characteristic starting materials in the breeding process [6].

Cross-species hybridization is of great importance in cotton breeding, because the Gossypium genus has a large number of characteristic species, varieties and forms. For example, many forms of the G.arboreum species are highly resistant to bacterial disease, the forms of G.anomalium and G.stoxyiturus are almost not affected by gommosis and wilt and are less affected by mites and sweetworms, plants of the G.armourianum species are resistant to drought, G. davidsani is resistant to drought and saline soils, G. Trilobuma, especially G. sturtii, is very resistant to low temperatures (withstands -7-10 0C cold and keeps its leaves), etc. It is clear that these characteristics are very valuable for cultivated plant varieties. Cross-breeding of G. hirscutum and G. barbadense plants of cotton opens the way to the creation of high-quality fiber quick-cooking varieties [4].

In 1922, L. G. Nikolayeva was the first to determine the number of chromosomes of various species. The number of haploid chromosomes of Old World cotton is n=13, the number of diploid chromosomes is equal to 2n=26, and the number of New World cotton is n=26; is equal to 2n=52. According to G.S.

Zaysev, the old world cotton types hardly interbreed with the new world cottons. Even if crossbreeding is carried out naturally or artificially, the hybrids resulting from such crossbreeding will be sterile in the first generation [1].

Creation of hybrids between natural tetraploid species G. hirsutum and G. barbadense has always been the focus of practical breeders. Despite significant progress in interspecies hybridization, this method is still not used enough by breeding scientists, because overcoming the impotence of F1 hybrids is still in an extensive state. In recent years, the method of growing 10-20-day-old shoots with a stimulant in an artificial nutrient environment, and planting young plants in an open field has been mastered. Cultivation of bushes is a promising way to overcome infertility in hybridization of long forms [2].

Great work has been started on the genetic engineering and biotechnology of cotton. This method is an additional method to traditional methods.

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