

BREEDING AND GENETIC CHARACTERISTICS OF CULTIVAR LINE L-1477 (CLEISTOGAM-2)

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ANNOTATION

This article discusses the selection and genetic characteristics of the line variety.

Keywords: line type, selection, genetics, traits, science.

INTRODUCTION

The solution of extremely urgent and crucial issues related to the creation of varieties with cleistogamous flower type of *G. barbadense* L. species, which requires special approaches and methods of research related to globalization of the specific tasks set for us, is the most significant problem of modern genetics, breeding, and seed-growing of cotton.

Cotton genetics, breeding, and seed production must establish new regularities of genetic regulatory mechanisms of floral cleistogamous type trait in intraspecific hybridization of *G. barbadense* L. species.

The claytogamous flower type can be used to create environmentally benign, biologically pure, and genetically homogeneous homozygous forms, lines, and varieties that prevent against cross-pollination due to biological contamination.

In this respect, the cleistogamous flower type is original and has a number of promising advantages, creating a unique opportunity for successful and rational pollination and fertilisation without interference from biotic and abiotic factors, retains (from a completely undesirable factor) under natural conditions a biological purity of up to 95-98%, ensuring high genetic homogeneity of the genotype with manifestation in the phenotype of homozygous progeny with isogenous character of trait determination [1,2].

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The genetic and breeding fundamentals of flowering types are especially important for the development of new promising cotton varieties with cleistogamous flowering types of intensive type with high crop capacity, extreme resistance to various diseases including wilt, ultra-early maturity, leafiness, self-drying, drought and salt tolerance, high yield, length, and technological quality of I.

The study of the variability and inheritance patterns of the cotton flower cleistogamy trait during intraspecific hybridization of *G. barbadense* L. species is a critical task in genetics, as much emphasis is currently placed on the study and establishment of genetic control of the cleistogamy trait, as well as the mechanism of heredity and variability development of the created sort. The cotton variety L-1477 (Cleistogam-2) that we developed is linked to the most important issues in modern genetics, breeding, and seed production, and is a response to the challenge posed to our scientists by the Government of the Republic of Uzbekistan, which is of paramount importance to coordinate completely new approaches and research methods in the globalization of methodological solutions to issues inextricably linked to the rapid development of agriculture. It's now a matter of offering new types to clusters and farms for the development of textiles and other light industries [3-5].

To answer these questions, researchers must examine the cleistogamous flower type trait's genetic, breeding, and seed-growing patterns of inheritance, and, by overcoming the barrier of cross-pollination, develop a genetic mechanism for development and identify stable genotypes with biological purity of up to 95-98% of homozygous progeny, which protects the genotype from biological contamination by extending the genotype's viability and longevity with manifestation in the pheromone.

On this foundation, methods of approach and means of synthesis of completely new concerns focusing on high achievements in genetic - breeding and seed-growing processes in republican and global cotton-growing will be established.

We developed the variety L-1477 (Cleistogam-2) by intraspecific hybridization of *G. barbadense* L. by crossing Ijod with cleistogamous flower type and 9871-I with chasmogamous flower type, and applying genetic analysis of hybrid plants in a 3:1 phenotypic class ratio, which is monohybrid cleavage, a mechanism that will ensure the genetic uniformity of the variety by selecting from the second generation of hybrid genotypes. The variety has 75-80 cm height, the bush is cone-shaped with 2 branches, bolls open strongly simultaneously, ripens equally with early-ripening medium-fibre varieties of cotton *G. hirsutum* L., vegetation 110-115 days, has a fiber yield 33.0-34.0%, length 41.5-42.5 mm I-type, fiber white, 1000 seeds weight 115-120gr, microneuria 4.1-4.3.

▪ A distinctive feature of cultivar L-1477 (Cleistogam-2) is cleistogamy (closed) fixation a unique natural phenomenon, which is inherited as a genetic marker trait, stable. The variety is unparalleled and has fork-tolerance, leafiness, self-pollination, hermetically closed flower type with biological purity, environmentally friendly, homogeneous genotype with manifestation in the phenotype of the individual. The flowers have a watery reservoir that promotes a rational pollination-fertilisation pathway with pollen protected by a closed flower type, which contributes to the vitality and longevity of the variety compared to the chasmogamous flower. In addition, the flower protects the internal subcells of the flower against various diseases, such as mycological, microbiological, viral, allergic and other diseases. The line L-1477 (Cleistogam-2) with closed cleistogam type flower serves as a donor, recipient and is naturally protected from cross-pollination, which is the main source of varietal contamination when developing the variety with closed cleistogam type flower with biological purity of 95-98% homozygous progeny, environmentally friendly and ensures genetic

homogeneity of the individual. Introduces completely new directions in national and global science.

Навнинг ўхшаши йўқ ва у вилтга чидамли, барги табиий тўкилади, табиий чилпишланади, биологик соф герметик ёпиқ гулли, экологик хавфсиз, бир хил кўрсаткичли генотишлар фенотишларда уз ифодасини топади. Ушбу холат республикамиз ва жаҳон фани ривожига янги йўналишга асос солди.

- The variety is unique in that it has a fork-tolerant, leafy, self-pollinating, tightly closed flower type, as well as a biologically pure, environmentally friendly, homogenous genotype that manifests in the individual's phenotypic. Introduced radically new scientific directions in the United States and around the world.

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