

## FORMATION OF THE GROWING PERIOD INDICATOR IN COTTON OPTIONS

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### **Abstract:**

In the article, despite the fact that convergent families based on the principle of transgressive recombination showed some lag compared to the standard variety C-6524 according to the results of the first year, as a result of correct selection in subsequent years, early maturity was achieved compared to the standard variety, while in long-term observations, convergent families based on the combined principle of transgressive recombination and incomplete backcrossing. It was noted that the family was superior to the S-6524 variety and showed more precocity.

Among the convergent families founded on the principle of transgressive recombination, it was noted that the O-329-30 family, founded on the combined principle of transgressive recombination and incomplete backcrossing, was faster ripening O-521-22 than the other family and the standard variety.

**Keywords:** cotton, selection, convergent hybridization, family, transgressive recombination, combined principle of transgressive and incomplete backcrossing, selection.

## G‘O‘ZA OILALARIDA VEGETATSIYA DAVRI KO‘RSATKICHINING SHAKLLANISHI

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## Annotation

Maqolada transgressiv rekombinatsiyalash prinsipi asosidagi konvergent oilalar dastlabki yil natijalarida andoza S-6524 nava nisbatan birmuncha kechpisharlikni namoyon qilganligiga qaramasdan, keyingi yillardagi to‘g‘ri tanlovlar natijasida andoza nava nisbatan tezpisharlikka erishilganligi, birlashgan transgressiv rekombinatsiyalash prinsipi va to‘liqsiz qayta chatishtirish asosidagi konvergent oilalar esa yillar davomidagi kuzatishlarda belgi bo‘yicha andoza S-6524 navidan ustun bo‘lib, tezpisharlikni namoyon qilganligi qayd etilgan. Transgressiv rekombinatsiyalash prinsipi asosidagi konvergent oilalarning unib chiqishi-50 % pishish bo‘yicha O-329-30 oilasining, birlashgan transgressiv rekombinatsiyalash prinsipi va to‘liqsiz qayta chatishtirish asosidagi konvergent oilalar orasidan esa O-521-22 oilasining boshqa oilalar va andoza nava nisbatan tezpisharligi namoyon bo‘lganligi kuzatilgan.

**Kalit so‘zlar:** g‘o‘za, seleksiya, konvergent duragaylash, oila, trasnsgressiv rekombinatsiyalash, birlashgan transgressiv rekombinatsiyalash prinsipi va to‘liqsiz qayta chatishtirish, tanlov.

## Аннотация

В статье, несмотря на то, что конвергентные семья, основанные на принципе трансгрессивной рекомбинации, показали некоторое отставание по сравнению с стандартным сортом С-6524 по результатам первого года, в результате правильных отборов в последующие годы достигнута скороспелость по сравнению с стандартным сортом, при этом в многолетних наблюдениях конвергентные семья, основанные по объединенному принципу трансгрессивной рекомбинации и неполной возвратной скрещивание. Отмечено, что семья превосходили сорт С-6524 и показал более скороспелость. Среди конвергентных семей, основанных по принципу трансгрессивной рекомбинации, отмечено, что семья О-329-30, основанных по принципу объединенному принципу трансгрессивной рекомбинации и неполных возвратных скрещиваний, был скороспелее О-521-22, чем другие семья и стандартный сорт.

**Ключевые слова:** хлопчатник, селекция, конвергентная гибридизация, семья, трансгрессивная рекомбинация, объединенный принцип трансгрессивной и неполной возвратной скрещивание, отбор.

## Introduction

Experiments have been conducted by many scientists at different times to achieve quickness in cotton. Since Uzbekistan is the northernmost cotton-growing country, the question of ripening is always in the first place for breeders. Breeders have conducted many studies on shortening the interval between flowering, flowering and ripening phases and increasing the rate of pod opening. It is known that the quickness sign is negatively associated with many valuable economic signs, in particular with fiber

quality indicators. Therefore, it is a very urgent and difficult task to create varieties that are quick-ripening, resistant to diseases and whose fiber quality corresponds to type IV.

## **Literature Review**

Namazov Sh.E., Kholmurodova G.R. and others, convergent hybridization is effective in achieving speedup. In this method, as a result of correct choices, it is possible to improve the character in the first generations [1; 2; 3; 4].

## **Methodology**

Scientific research was carried out on the basis of the methodological manual "Field experiment methods" (2007) adopted at the former UzPITI, fiber quality in the testing laboratory of the "Agro-industrial complex service center" in the Uster HVI Spectrum fiber classification system, the results of the research on valuable signs for the economy in laboratory conditions B. Mathematical-statistical analysis was carried out based on A. Dospehov's "Metodika polevogo opyta" (1985) and G. M. Beil and R. E. Atkins (1965) manuals.

## **Results**

According to the data of 2018, the results of the analysis of the time interval from germination to 50% flowering showed that convergent families based on the principle of transgressive recombination from 59.8 (O-329/30) to 60.3 (O-32/35, O-85/) days. 90) days, and it was shown that sample S-6524 (60.5 days) matured a little earlier.

All the convergent families based on the principle of combined transgressive recombination and incomplete backcrossing flowered in 59 days, 1 day earlier than the model variety S-6524.

According to 2018 data, convergent families based on the principle of transgressive recombination mostly flowered in 60 days, only family O-329-30 flowered in 59.1 days, 1 day earlier than the template variety S-6524 (60.5 days).

All convergent families based on the principle of combined transgressive recombination and incomplete recombination were observed to flower in 59 days this year as well.

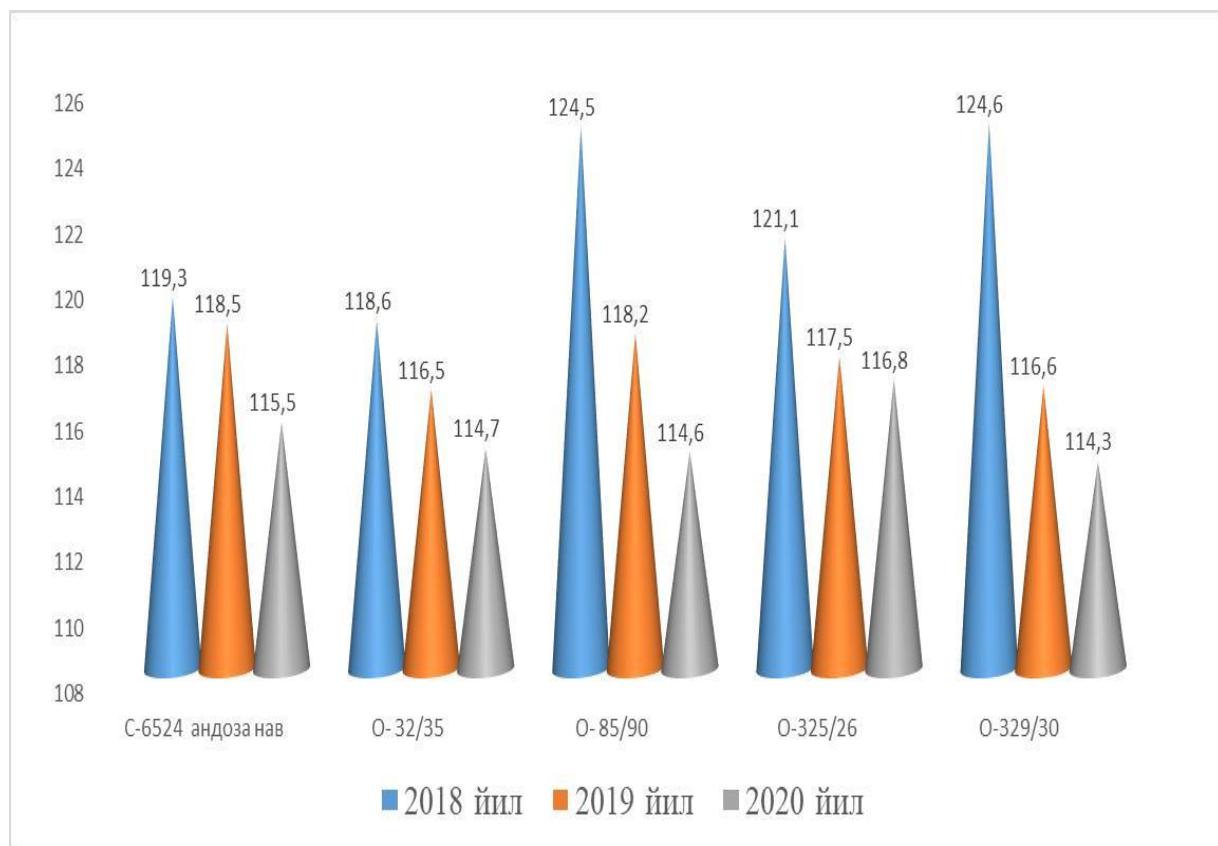
The results of field observations in 2019 showed that only family O-85/90 flowered in 60.3 days, all other families flowered in 59 days, and it was noted that it was at the level of the model variety S-6524 (59.5 days).

In convergent families based on the principle of combined transgressive recombination and incomplete backcrossing, according to their 2020 data, the O-329/30 family flowered in 58.3 days, which was 1 day earlier than the model variety and other isolated families.

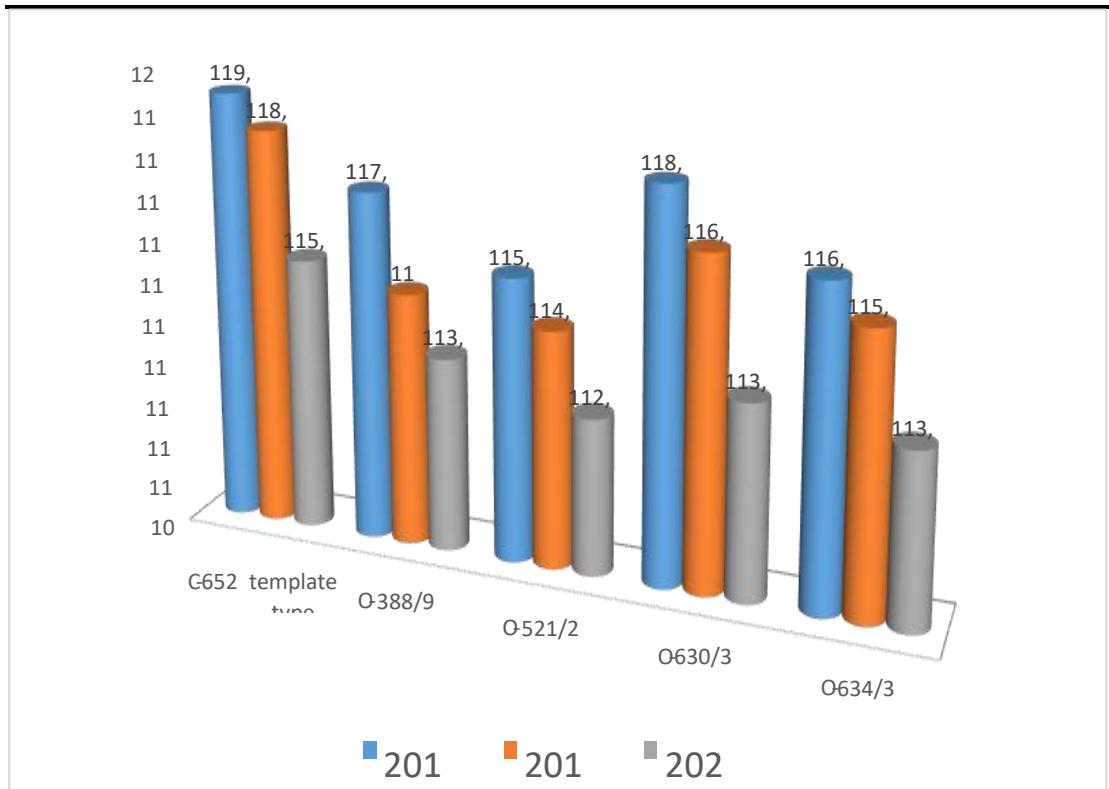
As a result of the research, it can be concluded that the convergent families based on the principle of combined transgressive recombination and incomplete recombination showed almost the same results for three years and flowered in 59 days, while the convergent families based on the principle of transgressive recombination and the O-

329/30 family flowered in 59 days for three years , and the rest of the families were noted to have flourished at the model variety level.

Germination of convergent families - according to the results of the analysis of 50% maturation rate (Fig. 1-2), in 2018, in convergent families based on the principle of transgressive recombination, only family O-32/35 matured in 118.6 days, sample S-6524 (119.3 days ) ripened 0.7 days earlier than the variety, and the rest of the families showed a slight late ripening from 1.8 (O-325/26) to 5.3 (O-329/30) days. In convergent families based on the principle of combined transgressive recombination and incomplete recrossing, 1.1 (O-630/32) to 3.6 (521/26) days compared to the model variety S-6524 (119.3 days) was recorded.



**Figure 1. Germination of convergent families based on the principle of transgressive recombination-50% maturation rates**



**Figure 2. Germination of convergent families based on the principle of combined transgressive recombination and incomplete recombination- 50% maturation rates**

According to the 2019 field observations and mathematical-statistical calculations based on the principle of transgressive recombination, all convergent families of the sample S-6524 (118.5 days) are 0.3 (O-85/90) days 2 (O-32) /35 until the day superiority, i.e. speed was shown. Combined transgressive recombination principle and convergent based on incomplete recombination

And in families, there was a predominance, i.e. acceleration, from 1.7 (O-630/32) to 3.9 (O-521/25) days.

According to the data of 2018, the germination of convergent families - 50% maturation rate is from 114.3 (O-329/30) to 116.8 (O-325/26) days in convergent families based on the principle of transgressive recombination, combined principle of transgressive recombination and incomplete recombination and in convergent families based on crossbreeding, it was noted that it was from 112.7 (O-521/25) to 113.6 (O388/91, O-630/32) days.

It was observed that all the families obtained by the method of convergent hybridization in both directions were faster compared to the model variety S-6524 (115.5 days). According to the variation amplitude of families, in convergent families based on the principle of transgressive recombination, from 1.40 (O-329/30) % to 3.63 (O-85/90) %, with an arithmetic mean deviation of 1.60 (O-329/30) from 3.79 (O-325/26), and

from 1.85 (O-521/25) to 3.08 (O-630/32)% in convergent families based on the principle of combined transgressive recombination and incomplete recombination, average arithmetic deviation from 0.96 (O-521/25) to 2.37 (O-630/32) indicates that both block convergent families have stabilized in terms of sign.

Therefore, according to the results of the quickness analysis, it can be concluded as follows, despite the fact that convergent families based on the principle of transgressive recombination showed some slowness compared to the S-6524 variety in the results of the first year, as a result of the correct selections in the following years, the speediness of the model variety was achieved. Convergent families based on the principle of combined transgressive recombination and incomplete recrossing have been observed to be superior to the model S-6524 variety in terms of characteristics and faster. The use of convergent families in genetic-selection processes, especially the convergent families O-521/25, O-634/35, O-388/91, whose maturity is 112-113 days based on the principle of combined transgressive recombination and incomplete recrossing, has a positive effect on achieving speed.

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