

INHERITANCE AND VARIABILITY OF EARLY RIPENING IN F1-F4 HYBRIDS CREATED BY TOPCROSS HYBRIDIZATION OF COTTON

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Abstract: In the F1-F4 hybrid generations created by the topcross hybridization method of cotton, the heredity and variability of early ripening were observed and analyzed over the years and generations, and early hybrid combinations were distinguished.

Key words: Cotton, hybrid, generation, combination, topcross, heredity, variability, rapid, variation.

It is known that early ripening is one of the main valuable economic characteristics in the selection of cotton varieties. It is important to collect cotton raw materials before the cold days.

The scientists of our Republic have conducted several scientific researches on the rate of ripening in cotton, including R.Nazarov, Sh.Namazov, and they emphasize that the soil and climate conditions are important in creating varieties with high fiber quality and yield. becomes important. The new varieties created by the scientists of the UzQSSIChM are distinguished by their productivity, quick ripening, high fiber quality, and resistance to diseases and pests, as well as their short-term adaptability to various environments [2; p. 18].

According to E.Matyokubova., M.Khalikova., O.Akhmedov, among the samples of the collection, there are biologically precocious samples compared to the model variety, and it is possible to create new promising early varieties using

these samples as a starting source in practical selection processes. The main element of quick cooking is the opening period of the first pod. In the studied F2 plants, it was in the range of 107.3-115.9 days (variation amplitude 4.6-9.4%). According to this indicator, the Termiz-202 x Pima C4 combination was found to be the fastest compared to other combinations (107.3 days). In the variation series, most of the plants were located in the classes between 110.0-113.0 days, which showed that they have high potential in terms of economic maturity [1; pp. 83-86].

In our studies, the rate of ripening in F1 hybrid combinations created by the method of topcross hybridization was 117.0 (F1Andijon-36 x C-6524; F1Andijon-36 x Kelajak; F1Andijon-36 x UzPITI-201) and 123.0 F1(Andijon-36) per day. x Jarkurgan) was in the interval until the day (see Table 1). Among them, in the following combinations F1Andijan-36 x Namangan-34 (hp=-1.0) and F1Andijan-36 x Sultan (hp=-1.0), F1Andijan-36 x Jarkurgan (hp=-0.5), F1Sultan x C-6524 (hp=-0.5), F1Sultan x Namangan-34 (hp=-1.0), F1Sultan x UzPITI-201 (hp=-0.5), F1Sultan x Kalajak (hp=-0.55) and F1Sultan x Andijon-36 (hp=-1.0) combinations showed complete dominance and negative intermediate heterosis at a negative level, showing no rapidity compared to the parents.

F1Sultan x Bukhara-102 (hp=8.0), F1Sultan x Turon (hp=19.0), F1Sultan x Namangan-77 (hp=46.5), F1Andijan-36 x Turon (hp=41.0) in combinations and a positive strong and intermediate level of heredity, i.e. lateness, was shown.

According to the results of the research obtained in 2020, the average maturity in F2 combinations ranged from 117.2 (F2Andijan-36 x UzPITI-201) days to 123.0 (F2Andijan-36 x Jarkurgan) days. Among hybrid combinations, F2Andijan-36 x UzPITI-201 (117.2 days), F2Sulton x C-6524 (118.9 days), F2Sulton x Kelajak (118.7 days) ripened earlier than other hybrids. . It should be noted that some of these hybrids were faster than the indicators of the previous

№	Комбинатсия	2019yil F ₁		2020 yil F ₂		2021yil F ₃		2022yil F ₄	
		M+m	V%	M±m	V%	M±m	V%	M±m	V%
1	Andijon-36 x Andijon-37	119,0	2,41	120,0	2,19	122,6	4,00	121,2	2,54
2	Andijon-36 x C-6524	117,0	1,51	119,2	2,12	120,0	1,57	119,0	1,72
3	Andijon-36 x Namangan-34	120,0	2,00	120,1	2,56	120,1	3,99	121,0	2,38
4	Andijon-36 x Namangan-77	121,9	1,87	121,4	1,61	121,4	1,61	123,2	0,94
5	Andijon-36 x Omad	119,1	1,79	119,3	1,68	120,6	1,52	118,8	1,20
6	Andijon-36 x Sul-ton	120,2	2,25	119,0	3,82	120,5	2,57	119,2	1,76
7	Andijon-36 x Jarqo'rg'on	123,0	2,06	123,0	3,04	120,9	2,32	122,0	3,07
8	Andijon-36 x Kelajak	117,0	2,55	119,2	2,93	120,7	2,74	118,8	2,56
9	Andijon-36 x Buxoro-102	120,1	1,82	119,4	2,13	120,7	2,71	121,2	0,88
10	Andijon-36 x Turon	122,1	2,10	121,5	4,02	121,2	2,39	120,0	1,71
11	Andijon-36 x O'zPITI-201	117,0	2,55	117,2	3,73	119,3	1,12	118,2	0,89
12	Sul-ton x Andijon-37	119,4	1,64	119,6	4,85	120,2	1,79	121,4	1,03
13	Sul-ton x C-6524	119,0	2,28	118,9	3,11	120,7	1,88	119,4	2,26
14	Sul-ton x Namangan-34	120,0	2,64	120,0	2,72	120,1	1,98	121,4	1,55
15	Sul-ton x Namangan-77	121,9	2,27	121,3	3,16	120,9	1,89	122,2	0,88
16	Sul-ton x Omad	121,0	2,78	121,5	4,17	121,1	2,32	118,4	1,10
17	Sul-ton x Turon	121,0	2,30	121,2	3,62	120,8	2,81	122,0	2,0
18	Sul-ton x Jarqo'rg'on	121,8	2,38	120,0	3,24	120,6	2,32	121,8	1,56
19	Sul-ton x O'zPITI-201	119,5	2,27	120,0	4,12	120,5	2,00	119,8	1,92
20	Sul-ton x Kelajak	119,1	2,25	118,7	3,97	119,5	2,02	120,0	1,56
21	Sul-ton x Buxoro-102	119,3	2,13	119,1	3,18	121,1	2,00	120,0	1,48
22	Sul-ton x Andijon-36	121,0	2,43	121,2	3,92	121,5	2,03	119,4	0,98
23	Andoza C-6524							120,4	1,08

year. Examples include F1Sultan x C-6524 (119.0 days), F1Sultan x Kalajak (119.1 days) and several other hybrids (see Table 1).

Inheritance and variability of ripening speed in F1-F4 hybrids

According to the results of the research obtained in 2021, the parameters of the ripening period of 50% of the germination of F3 plants were analyzed. In

these hybrids, we can observe that the indicators of the 50% ripening period from sprout germination ranged from 119.3 F3Andijon-36 x UzPITI-201 days to 122.6 F3Andijon-36 x Andijon-37 days (see Table 1).

According to the results of scientific research carried out in 2022, in F4 hybrids, based on the analysis of indicators of the "50% ripening from sprouting" period, on average from 118.4 days (F4Sultan x Omad) to 123.2 days (F4Andijon-36 x Namangan- 77) were recorded.

When comparing these F4 hybrids to the template variety C-6524 (120.4 days), it was found that there were early selection items from 1 to 2 days from the template. Among the hybrids are F4Andijon-36 x C-6524, F4Andijon-36 x Omad, F4Andijon-36 x Sultan, F4Andijon-36 x Kalajak, F4Andijon-36 x UzPITI-201, F4Sultan x C-6524, F4Sultan x Omad, F4Sultan x Andijan-36 selection materials differed from other hybrids in terms of precocity. Some of the remaining hybrids showed late maturity from 1 to 3 days. Only one F4Andijan-36 x Namangan-77 item stood out among the hybrids for its late maturity.

According to the results of a long-term study, this Andijon-36 x Omad is more fertile than other hybrids over the years (119.1 days in the 1st year, 119.3 days in the 2nd year, 120.6 days in the 3rd year, 4th year 118.8 days), Andijan-36 x UzPITI-201 (117.0 days in the 1st year, 117.2 days in the 2nd year, 119.3 days in the 3rd year, 118.2 days in the 4th year), Sultan x Future (119.1 days in the 1st year, 118.7 days in the 2nd year, 119.5 days in the 3rd year, 120 days in the 4th year) hybrids are more resistant to early ripening than other hybrids, and can be distinguished as material for creating quick-ripening varieties in further selection research. received.

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