THE INHERITANCE OF EARLY MATURITY TRAITS IN F3 HYBRID FAMILIES OF SUNFLOWER

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Abstract. This article analyzes the variability of sunflower fruiting in F3 families, both simple and complex, based on selective selection, and selects them for subsequent planting as starting material combining valuable economic traits.

Keywords: sunflower, breeding nursery, preliminary seedling nursery, root weight, variation analysis, rapidity, basket, productivity, root output, simple and complex rotation, flexibility.

Introduction. Meeting the demand for oilseed crops as essential food products for people's daily lives plays a crucial role in the development of our country's economy, as these oils are of great importance in maintaining human health. Therefore, in order to achieve wide variability in valuable economic traits when creating new sunflower varieties, new genotypes emerge that are adapted to new living conditions and can change as a result of genetic alterations based on simple and complex hybridization.

Scientific research by I.U. Anarbaev [1] and other scientists has shown that the selected sunflower samples took 45-48 days from emergence to flowering, and 35-40 days from flowering to ripening. Consequently, the sunflower's growth period is 80-85 days. It has been reported that in Uzbekistan's conditions, early-ripening sunflower varieties can be sown as a secondary crop after wheat, yielding an average of 12-25 centners per hectare.

Sunflower varieties, regardless of their homogeneity, under the influence of light regimes, differ to a certain extent in the timing of bud formation, flowering, and ripening. The morphological characteristics of sunflower varieties are also considered. As a result, breeders have ample opportunities to select forms with different lengths of vegetation periods and stem length.[2]

The materials and methods of the study. Our research was conducted in field and laboratory conditions within the framework of the applied project of the Karakalpakstan agricultural science institute"Creation of new promising, high-

yielding, high-yielding varieties of sunflower, adapted to the soil and climatic conditions of Karakalpakstan, faster than simple and complex tillering." All field observations were conducted according to the "Methodology for Conducting Field Experiments." [3]

Analysis and results. It is known that one of the main indicators of sunflower varieties in our republic is early maturity, which plays a significant role in the positive development of key economically valuable traits. This is because the harvest collected on time is of high quality and fully ripe. In addition, early-maturing varieties provide the basis for obtaining two harvests per season and create the opportunity to use them as the main crop after wheat.

In our research, variation series were compiled and the variability of the early maturity trait of F3 simple and complex sunflower hybrids was analyzed (Table 1). Plants were distributed in families across 8 classes ranging from 2 to 8 days according to the indicators of the vegetation period. In simple and complex hybrids, families predominantly occupied classes 3 and 5, with vegetation periods ranging from 72.1 to 77.0 days.

Among the studied F3 hybrids, the families with the earliest maturity, i.e., up to 72.1 days, accounted for 29.7% of F3 hybrids (S-Alstor x KK-1) and 12.5% of F3 hybrids (Sor Gollips x KK-1), while the vegetation period of plants in other hybrids was shorter, and the coefficient of variation in ordinary hybrids was 2.0-2.6%. In the conducted research, plants located on the right side of the variation row, i.e., late-maturing plants according to the vegetation period trait, were disposed of, and families located on the left side of the variation row according to the early maturity trait were preserved.

1-Table

Variational analysis of F3 hybrids of sunflowers by maturity trait.

№	Simple and complex hybrids	K=2								н	M±м	δ	B%
		68	70	72	74	76	78	80	82				
1.	F_3(Tel's x KK-1)	-	-	2	5	13	8	6	1	35	76,8±0,4	2,3	3,1
2.	F_3(C- Alstor x KK-1)	2	9	12	8	5	-	1	-	37	72,4±0,4	2,5	3,5
3.	F_3(C-HC-H-2011 x KK-1)	-	-	1	7	11	9	5	3	36	77,0±0,4	2,5	3,3
4.	F_3(Jant lower x KK-1)	-	-	3	5	12	7	4	2	33	76,6±0,4	2,6	3,4
5.	F_3(Sor Gollips x KK-1)	1	3	9	10	7	2	-	-	32	73,5±0,4	2,3	3,2
6.	F_3(Ак-12/95 x KK-1)	-	-	1	6	14	12	2	1	36	76,6±0,3	2,0	2,6
7.	F_3[F_1(Jant lower x KK-1) x (F_1(Ак-12/95 x KK-1)]	3	9	10	8	3	1	-	-	34	72,1±0,4	2,4	3,4

8.	F_3[F_1(C-HC-H-2011 x KK-1) x F_1(C- Tel's x KK-1)]	1	8	12	6	4	-	2	-	33	72,7±0,4	2,7	3,8
9.	F_3[F_1(Sor Gollips x KK-1) x (F_1 (Tel's x KK-1)]	2	10	13	4	3	2	-	-	34	72,1±0,4	2,5	3,4

Conclusion. In several years of research, based on various selections, simple and complex hybrid families of sunflowers F3 were selected for transfer to the next nursery as starting material, combining early maturity and positive main economically valuable traits.

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