SELECTION OF HIGH PERFORMANCE GENOTYPES OF LINE 27, LINE 28 SELECTION SYSTEMS IN TERMS OF EGG LAYING INTENSITY ON THE 1ST DAY

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Annotation. This article examines the egg-laying intensity of Liniya 27 and Liniya 28 selection systems based on research conducted in 2022-2023. Using large silk-producing breeds from Uzbekistan, the study observed the egg-laying process of female butterflies. Results indicated that Liniya 27 laid 501.5 eggs and Liniya 28 laid 590.0 eggs on the first day, with intensities of 88.9% and 90.6%, respectively. Variation coefficients were 15.6% for Liniya 27 and 13.8% for Liniya 28, confirming genetic diversity. Selected genotypes are expected to enhance egg-laying in future generations, highlighting the importance of these findings for selection processes.

Keywords. Egg-laying intensity, Selection systems, Liniya 27,Liniya 28,Genetic diversity, Breeding moths, Autbred crosses,Uzbekistan silk breeds.

In this scientific work, the new promising Line 27, Line 28 selection systems and the large-cocoon Gozal and Marvarid breeds, which are laid on the 1st day and 2-3 days, are separated, that is, the 1st fraction and the 2nd fraction was planned to receive. During the spring worm feeding season, the brood cocoons selected from the families of the Line 27 and Line 28 systems were separated into sexes and interfamilial outbred hybridization was carried out.

After mating and separation of each crossbred butterfly for 2 hours, the female butterflies were placed in a parchment isolation bag with system, breed number, geneology of crossbred families and I-fraction number written on it.

Exactly 24 hours later, the female butterfly was placed in the II-fraction bag to collect the eggs of the second fraction, that is, the eggs of the next 2-3 days. Eggs of 2 different fractions were taken from all the butterflies that were bred in this order, and they were hung in a special room for the aestivation period in July-August. During the aestivation period, the air temperature in the room was 25-260C and the relative humidity was 60%. Starting from the first 10 days of August, each egg laid was subjected to a microscopic examination to determine whether it was free of nosematosis and nuclear polyhedrosis. In order to study the signs of egg-laying intensity of female butterflies on the first day from a genetic point of view, we determined the main parameters of the eggs laid by butterflies on the first and 2-3 days. Table 3.2.1 lists the main reproductive parameters of the eggs obtained in the first and second fractions.

Table 3.2.1

The number of eggs in the first and second fractions of the Line 27 and Line 28 selection systems

Years	The number of eggs laid					
	Eggs laid on day 1 X ±S x , piece	C_v, %	Eggs laid on 2-3 days X ±S x , piece	C_v, %	Predominance of 1-day eggs, pcs	Reliability of difference (Pd)
Liniya 27						
2022	464±5,2	13,62	91±3,4	49,70	373	0,999
2023	539±3,9	15,74	59±2,7	61,25	480	0,999
Average	**501,5**		**75**		**426,5**	-
LINIYA 28						
2022	563±5,0	13,54	68±3,7	65,91	495	0,999
2023	617±9,2	15,07	58±4,1	59,53	559	0,999
Average	**590,0**		**63,0**		**527,0**	-

From the data in Table 3.2.1, we can see that the system and breeds differ sharply in terms of the number of eggs laid on the 1st day. If we

compare the number of eggs in I-fraction and II-fraction, this indicator is according to the 3-year averages, respectively

501.5 in line 27; 75.0 units, 590.0 on Line 28; It was 63.0 units. The superiority of I-fraction indicators over II-fraction indicators was 426.5 units in Line 27 and 527.0 units in Line 28. Fraq's level of reliability is high (Pd= 0.999). It is important to study the variability of this sign in the correct organization of selection and breeding work and in the selection of genotypes of female butterflies that lay the maximum number of eggs on the 1st day. Therefore, based on the figures given above, we determined the intensity of egg-laying in the first day and its variability in two different selection systems and two different breed populations (Table 3.2.2).

Table 3.2.2

Variability of egg-laying intensity on the 1st day

Years	The total number of eggs in the barn is X ±S x, pcs	The number of eggs in the fraction X ±S x , pcs	Egg-laying intensity on the 1st day X ±S x , %	The coefficient of variation of egg-laying intensity on the 1st day (Cv, %)
	liniya27			
2022	566±3,8	464± 5,2	87,7±0,77	14,5
2023	598±4,5	539± 3,9	90,1±0,45	17,2
Average	**582,0**	**501,5**	**88,9**	**15,9**
Compared to 2022, abs. in the indicator (R)	**32,0**	**75,0**	**2,4**	-
		Liniya 28		
2022	631±4,0	563± 5,0	89,8±0,51	9,64
2023	675±4,8	617± 9,2	91,4±0,47	16,5
Average	**645,7**	**581,3**	**90,6**	**13,8**

Compared to 2022, abs. in the indicator (R)	**44,0**	**54,0**	**1,6**	**-**

Analyzing the indicator of egg-laying intensity on day 1 of the systems and breeds in Table 3.2.2, it can be seen that this indicator was 88.9% in Line 27 and 90.6% in Line 28. That is, it was found that the female butterflies of the systems lay a very large part of their total eggs in the first day.

One of the main goals of the scientific work is to carry out selection work on the feature of maximum egg-laying of female butterflies on the 1st day, and for this, there should be variability in the population of selection systems according to this feature. That is, diversity in the population is the basis for breeding. Therefore, we performed a complete analysis of the egg-laying of breeding systems and breeds, and calculated the coefficient of variation of female butterflies on the intensity of egg-laying on the 1st day. Based on three-year results, this indicator is Cv=15.6% in systems and breeds, respectively; Cv=13.8%; and Cv=15.2%; Cv=16.4%. These determined coefficients of variation indicate that there is diversity in breeding systems and breeding populations, and that it is possible to increase the number of eggs laid by female butterflies in the first day through breeding and selection.

As a confirmation of our above opinion, as a result of the selection of genotypes that showed the maximum egg-laying intensity on the first day for this character, the intensity of egg-laying on the first day in the third and second generations was 5.7 abs % in the Line 27 system, 1 in the Line 28 system, An increase of 3 abs % was achieved.

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