

In Table 2, 30 days before migration, worker bees in the hive gained 6.9 mg or 4.8% of their weight compared to controls. Similarly, 20 days before the same bees weight, in experimental groups 15.5 mg or 13.5% more than in the control group.

Conclusion: Before the bee family migrates and separates, it can be learned based on the physiological changes that take place in the body of worker bees 20 days before they do so. In migratory families, the size of the worker bees increases, and the amount of fat in his body increases slightly. All this is due to the migration of bees that migrate to a new place; they build a new place, raise a new generation, collect food and process them. In order to spend the winter well, it fills the hive with young bees and replenishes it with a large amount of food reserves for a successful winter.

In migratory bee families, worker bees can be identified by physiological changes in their bodies 30-20 days before the migration.

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CREATION OF INBRED SYSTEMS WITH A CHOICE OF PLUS AND MINUS ON THE VIABILITY OF SILKWORMS WITH THE BEST COMBINATION VALUE

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Abstract: There is no difference in performance in systems with plus and minus selection. In the F-1 and F-3 systems where viability plus selection was performed, cocoon weight values were 1.84 g and 1.85 g, and shell weights were 432 mg and 422 mg, respectively. In practice, the minus selection does not differ from those of the conducted F-2 and F-4 systems -

1.72 g and 1.85 g, respectively; 394 mg and 420 mg. Clearly, the choice of viability leads to the accumulation of recessive hemispheric and sublethal genes in the homozygous state in the system. As a result, some organisms die at different stages of development. But some of them survive. Probably on the one hand, because harmful genes are less accumulated, and on the other hand, because there are enough positive genes to compensate for the effects of harmful genes, i.e., the GCC is formed.

Had this process not taken place, no doubt the system would have perished as a result of negative selection over several generations. It follows that GCC does not occur in systems with high viability. The predominance of positive genes over negative genes is achieved without them. In addition, the process of mutation is accelerated under the influence of negative selection. This increases gene diversity.

Thus, not only the reserve but also the newly emerging genes remain the source for the blocks of both categories.

Keywords: Inbred, system, top cross, bottom cross, in cross, heterosis, hybrid, mulberry silkworm, cocoon, cocoon shell, silkworm.

According to many scientists [V.A. Strunnikov, S.V. Nasriddinova, V.N. Shushikova N 1979,1987], the use of close kinship in the selection and breeding of mulberry silkworms can increase the homogeneity of cocoons, increase of silk production and silk raw materials, it also leads to an increase in the output, an improvement in the cocooning. Therefore, in the selection and breeding work with mulberry silkworms, research related to the use of crossbreeding to strengthen the economic-beneficial traits and increase the effectiveness of heterosis in crossbred hybrids obtained from interbreeding hybridization of inbred systems is important.

It is well known that heterosis is particularly pronounced when inbred systems or strains are mixed with inbred systems. We had 4 inbred generations of silkworms at our disposal, i.e. strong Inbred Line 48, Line 51 systems. Therefore, it was very interesting to determine how hybrids between inbred systems and Chinese 108 and Japanese 66 breeds manifest themselves in terms of technological characteristics of cocoon fiber.

The most effective of the interbreeding systems applied to mulberry silkworms is the mating of blood-siblings, which provides close homozygosity in the offspring, in our case, on the viability of silkworms.

Selection-inbreeding creates a high degree of phenotypic and genotypic homogeneity in the offspring across all genetic traits of the organism. Inbred reproduction, which is carried out by selecting the best creatures and disposing of the worst, leads to the creation of systems that are resistant, viable and productive, free from all negative genetic factors.

In other words, the sum of the genotypes of the ancestors of an isolated breed forms an immutable hereditary fund, and the genotype of the generations does not go beyond it.

The combination of viability in the mulberry silkworm genotype with the high-tech properties of cocoon fiber is a noble goal of all silkworm practitioners.

[Strunnikova L.V., Strunnikov V.A., Sharova I.G., Yakubov A.B., Pashkina T.A., Larkina E.A., Tadjiev E.X., Ikramov Z.I. 1999.] According to research, one of the causes of heterosis is the emergence of a positive genes compensatory complex (GCC) that is formed slowly during inbred reproduction and resists inbred depression. In inbred systems, the choice for both high viability and low viability is the mechanism that triggers the formation of GCC.

There is no official data on the reaction of large cocoon breeds to inbred breeding, so the study of the possibility of using inbreeding in the breeding of high-yielding breeds created by synthetic methods will undoubtedly be of interest, as it is planned to introduce such breeds in Uzbekistan.

Large cocoon selection systems Line 48 and Line 51 were used as experimental material. Through the Sister to Brother hybridization, each selection system was previously fitted with two inbred systems: F-1 and F-2 from Line 48, and F-3 and F-4 from Line 51 systems, the selection was made on the increased viability of silkworms, and on the F-2 and F-4 systems - on the reduced viability. In this study, five inbred generations (J5, J6, J7, J8, J9) were studied and the response of the strains to inbreeds in systems with targeted selection was determined. The control was provided by silkworms obtained by outbred crossbreeding of the same species. The results of the study are presented in Table 1.

Table 1 clearly shows the inbred depression of the F-1, F-2, F-3, and F-4 systems in terms of the number of normal eggs in the stock, the weight of the stock, and the weight of a single egg. For example, Line 51 has 711 eggs, while the F-1 and F-2 inbred systems derived from it have 637 and 646 eggs, respectively. The average weight of one egg in line 48 is 0.587 mg. In F-3 and F-4 inbred systems derived from it - egg weight was 0.587 and 0.549 mg. Inbred breeding has led to a certain stabilization of the reproductive traits of the breed. The coefficient of variation was found to decrease at the end of inbreedization of all parameters in all inbred systems. In the F-1 system, the Sv in normal seeds in terms of quality was 18.6% in 2007 and -14.8% in 2011. A similar situation was observed in other systems. The confidence level ($Pd = 0.999$) for egg resuscitation was calculated.

However, there is almost no difference in reproductive performance between inbred systems with high and low viability of silkworms. This can be explained by the fact that there is little or no correlation between the viability of silkworms in Line 48 and Line 51 and the amount of eggs in the

nest. In that case, survival selection cannot lead to a significant change in reproductive traits, and we see this in this experiment.

Table 1

Reproductive and hatching indicators of inbred systems (2007-2011 years)

Systems	Years	Average number of normal eggs, pieces		The average weight of the stock, mg		The average weight of an egg, mg		Physiologically unfit %		Hatching of eggs, %	
		$\bar{X} \pm S \bar{x}$	Cv, %	$\bar{X} \pm S \bar{x}$	Cv, %	$\bar{X} \pm S \bar{x}$	Cv, %	$\bar{X} \pm S \bar{x}$	Cv, %	$\bar{X} \pm S \bar{x}$	Cv, %
F-1	J _s	2007	497±19,6	18,6	287±10,1	18,6	0,578±0,001	9,6	3,7±0,06	11,4	96,9±4,0*
	J ₉	2011	637±17,1	14,8	371±8,1	13,7	0,581±0,002	7,8	5,2±0,4	13,4	95,3±3,5*
F-2	J _s	2007	527±17,8	21,1	293±8,4	20,4	0,556±0,001	8,3	2,2±0,5	9,3	94,2±4,1
	J ₉	2011	646±14,8	12,3	368±8,3	10,9	0,570±0,005	4,0	3,2±0,2	8,6	97,4±2,0
System 51 (comparative)		2011	711±8,7	7,8	392±5,9	10,0	0,580±0,003	6,2	2,1±0,1	6,0	96,1±3,0
F-3	J _s	2007	438±22,4	24,6	258±10,6	23,0	0,589±0,006	6,0	5,6±1,5	9,2	93,3±5,2
	J ₉	2011	619±17,1	13,9	361±9,6	15,6	0,587±0,007	6,0	3,2±1,0	7,4	91,9±5,0
F-4	J _s	2007	458±27,1	19,0	260±10,1	14,7	0,568±0,007	6,3	4,0±0,1	5,5	87,8±5,1
	J ₉	2011	620±17,1	11,6	340±8,7	7,5	0,549±0,005	4,2	4,0±0,5	6,8	94,0±4,9
System 48 (comparative)		2011	663±6,7	6,2	415±5,3	9,6	0,587±0,005	8,4	5,3±0,1	5,6	96,7±3,0

Table 2

Biological indicators of selection inbred systems (2007-2015 years)

Systems	Inbreeding generations	Years	Viability of silkworms, %		The weight of a shell, mg		The weight of a cocoon, g		Silkiness, %	
			$X \pm Sx$	Cv	$X \pm Sx$	Cv	$X \pm Sx$	Cv	$X \pm Sx$	Sv
F-1	J _s	2007	66,8±2,8	18,3	384±8,5	9,6	1,05±0,03	6,7	23,4±0,2	3,2
	J ₉	2011	77,4*±5,8	18,3	432±16,6	9,4	1,84±0,06	7,5	23,6*±0,2	1,7
F-2	J _s	2007	60,9±6,9	43,6	395±8,9	8,7	1,73±0,03	6,4	22,9±0,2	3,4
	J ₉	2011	77,7±6,1	19,2	394±19,8	12,3	1,72±0,08	7,8	23,2±0,3	3,0
Line-51 (comparative)			81,8±1,9	8,6	515±9,8	7,5	2,05±0,03	5,1	25,1±0,2	3,8
F-3	J _s	2007	54,0±3,9	29,5	377±8,4	9,2	1,72±0,03	7,5	22,1±0,3	1,1
	J ₉	2011	84,9±3,9	11,2	422±13,3	13,5	1,85±0,06	7,8	22,8±0,7	6,9
F-4	J _s	2007	53,1±3,5	28,2	405±12,4	12,2	1,72±0,04	9,1	23,8±0,03	4,8
	J ₉	2011	78,3±5,7	17,7	430±4,9	2,8	1,85±0,02	2,2	23,2±0,2	1,6
Line-48 (comparative)			84,7±1,6	8,2	534±10,0	6,9	2,11±0,03	4,8	25,2±0,3	4,0

***Pd=0,999**

In this breed, the correlation between the viability of silkworms and the number of eggs in the nest was very low and was 0.041. The correlation between survival and weight of a single egg - 0.126 is also the result of research [Nasirillaev U.N. 1985.]. Inbred depression significantly bypassed egg hatching (Table 1).

From the researches of the Turkmen scientist [Mamedov A. 1985.] it is known that a significant detrimental negative effect of inbreeding on egg hatching was not observed in not only one-time but also three-, four-time crossbreeding of close relatives.

In our experience, the hatching of inbred systems is slightly different than that of controls. For example, the hatching of the F-1 and F-2 systems

is 95.3% and 97.4%, while in the L-51 control it is 95.1%. This was done in an experiment with the S-5 breed, where the highest coefficients of phenotypic correlation were found between silkworm viability and egg hatching, cocoon weight, and egg weight in the nest [Nasirillaev U.N. 1985.] is consistent with the results obtained. Seed viability in systems with such viability plus selection is as follows: in F-1 - 95.3%, in F-3 - 91.9%, and in minus-selected systems - F-2 - 97.45 and in F-4 - 94.0%.

An interesting picture is observed on the viability of silkworms, and this can be seen in Table 4.1.2.

In experiments [Shurshikova NV, Nasriddinova SV 1981.], a decrease in viability in the first inbred generations of SANIISh-21 and SANIISh-30 was observed, and in all subsequent generations from the fourth generation on bred material viability was high and not less than control, but it was even greater than that of the control.

The viability of the systems studied in our experience is appropriate with the control.

However, no stabilization of viability has been observed across inbred generations. This is also evidenced by the high coefficients of variability in all inbred systems. For example, $S_v = 18.3\%$ in F-1, $S_v = 19.2\%$ in F-2, and 8.2% in control. This is explained by the fact that the viability of mulberry silkworms is closely related to external environmental conditions.

[Strunnikov V.A. 1994.] noted that mulberry silkworm breeds are saturated with a large number of harmful recessive genes, some of which, especially in kinship reproduction, become homozygous, thus creating a constant source of variability in quantitative traits. In our experience, this is indicated by indicators such as shell weight, cocoon weight, and silkiness.

There is no difference in performance in systems with plus and minus selection. In the F-1 and F-3 systems, which were selected for viability plus, the cocoon weight values were 1.84 g and 1.85 g, and the shell weights were 432 mg and 422 mg, respectively. In practice, the minus selection does not differ from those of the conducted F-2 and F-4 systems - 1.72 g and 1.85 g, respectively; 394 mg and 420 mg. Clearly, the choice of viability leads to the accumulation of recessive hemispheric and subletal genes in the homozygous state in the system. As a result, some organisms die at different stages of development. But some of them survive. Probably on the one hand, because harmful genes are less accumulated, and on the other hand, because there are enough positive genes to compensate for the effects of harmful genes, i.e., CCG is formed.

Had this process not taken place, no doubt the system would have perished as a result of negative selection over several generations. It follows that CCG does not occur in systems with high viability. The predominance of positive genes over negative genes is achieved without them. In addition, the

process of mutation is accelerated under the influence of negative selection. This increases gene diversity.

Thus, not only the reserve but also the newly emerging genes remain the source for the blocks of both categories.

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**SOME ASPECTS OF ENSURING THE RIGHTS OF CHILDREN TO EDUCATION
IN CASE OF A PANDEMIC**
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Abstract: The article discusses some topical issues of ensuring the right of children to education in a pandemic. The transition to a distance and online system of continuing general secondary, secondary special and higher education in Uzbekistan, the positive and problematic aspects of this system, the results of studying the experience of international organizations and foreign countries in this field are discussed.

Key words: the right to education, the impact of the pandemic on the education system, online education, distance learning, UNICEF initiatives, a