



## THE IMPORTANCE OF FOOD FOR MULTAR SILKWORMS IN GROWING QUALITY COCOONS

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### Annotation

The article analyzes the impact of mulberry varieties created by our local breeders on the feeding of foreign and domestic silkworms, the impact of their nutritional content on the viability of silkworms during their youth, the cocoon and silkworm cocoons.

**Keywords;** silkworm, mulberry leaf, feed, viability, larva, mulberry variety, mulberry hybrid, silkworm breed, temperature, humidity, silkworm, comparator, cocoon shell, varietal cocoon, varietal cocoon, cocoon.

One of the most important and urgent tasks facing the silk industry is to grow high-quality cocoons that can fully meet the needs of the international market on the basis of the Republican Silk Industry Development Program, increase the economic efficiency of the industry by increasing the productivity of each box. Since the yield and quality of cocoons are directly related to the nutritional value and quantity of mulberry leaves fed to silkworms, much attention is now being paid to the state of the industry's nutrient base. The establishment of mulberry varieties and hybrids with high yields and nutrients remains a modern requirement [1].

For Uzbekistan, which is developing silkworm breeding, it is necessary to radically strengthen the food base of mulberry silkworms. Mulberry plantations can be realized only by the organization of mulberry plantations consisting of varietal and hybrid mulberries, leaf productivity, productivity and its efficiency. To do this, it is important to create new high-yielding varieties of mulberry adapted to different



seasons and climatic conditions and to establish mulberry plantations on their basis [2,3,4].

Since silkworms feed only on mulberry leaves, it poses considerable difficulties in meeting all its biological and physiological requirements for food. Because the existing varieties of mulberries in the regions and districts, the level of agro-technical care differs in the methods of use of mulberries, which inevitably affects the biochemical composition of leaves [5,6].

According to the results of scientific research in the field of silkworm breeding and expert scientists, it is advisable to use mulberry leaves to fully meet the nutritional needs of worms. Despite some work in this direction, the chemical parameters that reflect the level of nutrition of mulberry leaves have not been studied in full connection with the weight, silkiness, quality and technological properties of silkworm cocoons.

It is known that there are now more than 240 varieties of mulberry. Among them are varieties created by breeders of our republic, imported from the Commonwealth and far abroad.

In conducting our experiments, the varieties of Marhamat and Uzbek hybrid mulberry varieties created by breeders of the Uzbek Silk Research Institute were used. Seedless varieties of Tajikistan, which have been used for many years in all districts of the comparative republic, were used.

The experiments were conducted in Surkhandarya, Jizzakh and Tashkent regions. The worms were fed mulberry leaves from the first age until the cocoon wrapping period. Table 1 shows the worm viability, worm feeding period indicators.

Table 1. Worm viability and larval stage when feeding foreign silkworms with mulberry leaves (Average figures for 2018-2020)

Name of mulberry varieties and hybrids	larval life of larvae		Larval period	
	$\bar{X} \pm s \bar{x}, \%$	relative to the comparative variant, %	$\bar{X} \pm s \bar{x}, \text{ per day}$	relative to the comparative variant per day, %
Jarariq-1	94,5±0,61	106,8	23,5±0,24	96,5
Jarariq-2	92,0±0,57	106,4	23,5±0,26	96,8
Marxamat	98,5±0,46	109,7	22,6±0,26	94,8
Uzbekistan is a hybrid	96,0±0,38	108,1	22,0±0,28	95,0
Tajikistan seedless	88,0 0,41	100,0	24,0 0,27	100,0

The data in Table 1 show that the viability of worms fed on varietal mulberry leaves is slightly higher than that of the seedless mulberry variety in Tajikistan. The highest viability was observed in the variants using the Marhamat variety and the Uzbek hybrid. Feeding with navdor mulberry leaves shortened the larval period by 3 days.

The cocoons grown in the experimental and comparative variants were analyzed and signs of cocoon, silk shell, weight, silkiness were identified.

Compared to the newly created mulberry varieties and the cocoons wrapped in worms fed with hybrid mulberry leaves, the mulberry leaves were larger than the variant used. The largest cocoons (2.21-2.23 g) were observed in the variants using the Marhamat variety and Uzbek hybrid mulberry leaves. In these variants, the cocoon weight was 5.2-6.2% higher than in the comparator, which was reflected in the experimental variants.

**Table 2. Influence of feeding of foreign silkworms on mulberry leaves on productivity traits (Average figures for 2018-2020)**

Name of mulberry varieties and hybrids	$\bar{X} \pm s \bar{x}, \%$	Relative to the comparator, %	Pd
The average weight of the cocoon			
Jarariq-1	2,13±0,13	106,2	0,918
Jarariq-2	2,11±0,12	105,2	0,996
Marxamat	2,20±0,13	104,3	0,910
Uzbekistan is a hybrid	2,10±0,11	101,4	0,898
Tajikistan seedless	2,00±0,16	100,0	-
The average weight of a silk shell			
Jarariq-1	520±7,42	106,1	0,892
Jarariq-2	530±7,38	108,1	0,920
Marxamat	550±7,26	104,1	0,990
Uzbekistan is a hybrid	525±7,10	103,0	0,914
Tajikistan seedless	490±6,94	100,0	-
The silkiness of the cocoons			
Jarariq-1	23,3±0,23	100,0	0,913
Jarariq-2	24,0±0,28	103,0	0,952
Marxamat	23,4±0,22	100,4	0,924
Uzbekistan is a hybrid	23,7±0,24	101,7	0,896
Tajikistan seedless	23,3±0,26	100,0	-

Navdar mulberries help to increase the silk content of the cocoon. The Marhamat and Jarariq varieties produced 520-550 milligrams of cocoon silk, or 6.1-8.1 percent more silk than the comparator. The difference between the experimental and comparative options was confirmed to be statistically reliable (Pd 0.921).

The silkiness of the cocoons was almost the same in the variants used in the varietal mulberry leaf and in the comparative variant.

Sorting and sorting of cocoons grown according to the variants showed that feeding with leaves obtained from varietal mulberries ensured that the quality of the cocoons they wrapped was significantly higher (Table 3).

Experiments on the use of mulberry varieties and cocoons grown in comparative variants differ slightly in quality. In the comparative variant, the cocoons were 85.0%, while in the cocoons of mulberry-fed Jarariq, Marxamat and Uzbek hybrids, the cocoons were 88.5-89.0% or 4.1-4.7%. It was a lot.

**Table 3 The effect of mulberry on the quality of cocoons wrapped in foreign silkworms (Average figures for 2018-2020)**

Name of mulberry varieties and hybrids	Percentage of cocoons		Defective cocoons,%	black cocoons,%	Pd
	$\bar{X} \pm s \bar{x}, \%$	relative to the comparator,%			
Jarariq-1	87,0±0,55	102,3	1,5	1,0	0,942
Jarariq-2	88,5±0,58	104,1	1,5	0,5	0,930
Marxamat	89,0±0,62	104,7	1,5	0,5	0,999
Uzbekistan is a hybrid	86,0±0,66	101,2	2,0	1,0	0,886
Tajikistan seedless	85,0±0,54	100,0	2,0	1,0	-

Worms provided with navdor mulberry leaves wrap cocoons of high quality due to their health. The quality and quantity of mulberry leaves have a great influence on the growth and development process of mulberry silkworm.

Feeding worms with high nutrient content of Jarariq, Marxamat varieties and hybrid mulberry leaves of Uzbekistan. led to an increase in the share of cocoons (4.1 ... 4.7%). Therefore, it is advisable to use mulberry varieties, especially in silkworm breeding and breeding.



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