# BIOLOGICAL AND PRODUCTIVITY INDICATORS OF TASHKENT 1 AND TASHKENT 2 BREEDS

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# БИОЛОГИЧЕСКИЕ И ПОКАЗАТЕЛИ ПРОДУКТИВНОСТИ ТАШКЕНТСКОЙ 1 И ТАШКЕНТСКОЙ 2 ПОРОД

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**Annotation.** In this article, the number of eggs in the Tashkent 1 and Tashkent 2 nests was 596 eggs in the Tashkent 1 breed, and 673 eggs in the Tashkent breed. The weight of the eggs in the nest was equal to 359 mg and 377 mg, corresponding to the number of eggs in the nest, the survival of the eggs obtained from them was on average 98.4%, 98.2%, and the viability of worms - 92.3%, 93.6 %. The disease percentage is very low, i.e. 1.8% in Tashkent 1 breed and 3.4% in Tashkent 2 breed.

**Аннотация.** В данной статье количество яиц в гнездах Ташкент 1 и Ташкент 2 составило 596 яиц породы Ташкент 1 и 673 яйца породы Ташкент. Масса яиц в гнезде равнялась 359 мг и 377 мг, что соответствует количеству яиц в гнезде, выживаемость полученных из них яиц составила в среднем 98,4%, 98,2%, жизнеспособность червей - 92,3%, 93,6%. Процент

заболеваемости очень низкий: 1,8% у ташкентской 1 породы и 3,4% у ташкентской 2 породы.

**Key words.** Selective, reproductive, egg, egg-laying, revival, vivacity, cocoon, silkiness, silkworm.

**Ключевые слова.** Селективный, репродуктивный, яйцо, яйцекладка, оживление, живость, кокон, шелковистость, тутовый шелкопряд.

Enter. In order to develop the sericulture industry, the decision "On measures to organize the activities of the Uzbek paksanoat association" defines the main measures for the reform of the sericulture of our country (2017). In this historic decision, special attention is paid to the gradual expansion of the main feed base of cocoons, that is, the areas of mulberry plantations, the creation of breeds and hybrids suitable for the climatic conditions of our country, and the increase of the volume and quality indicators of the cocoon raw materials. At the same time, in the development of innovative development in the field, as a continuation of the systematic work that increases the role of science, the new development strategy of Uzbekistan in 2022-2026 is successfully implemented, a new stage of scientific development, new science, scientific research, innovative achievements in education and can be one of the important factors in creating effective mechanisms in the development of scientific fields (2022) .

N.G.Bogoutdinov (1965); M.G.Silanteva (1975); I.M.Gumbatov (1983) determined that the quantity and quality of feed, the hygrothermal condition of worm feeding and the climatic conditions of the regions have a significant effect on the productivity and egg quantity of mulberry silkworms.

Sh.R. Umarov, U.N.Nasirillaev. (1996); in their published scientific articles showed that the environmental conditions (quality and quantity of food, hygrothermal conditions) significantly affect the productivity and reproductive characteristics of the mulberry silkworm during the worm feeding period.

In the selection and breeding of agricultural animals, including the mulberry silkworm, the interrelationship of reproductive characteristics with

variability, heredity parameters and their other quantitative characteristics is of particular importance.

J.Sh.Toychiev (2001) in his scientific work stated that by removing deaf and spotted cocoons from the fertile cocoons, the number and weight of eggs in the laying can be increased by 10.9% and 11.9%.

These scientific experiments were carried out in 2023-2024 in the Andijan Institute of Agricultural Agrotechnologies and in the Altinkol District of the Andijan Region.

Individually analyzed for reproductive characteristics, 80-100 clutches (families) with the highest reproductive performance were selected for breeding. From the selected families, 100 seed samples were counted to determine the survival rate.

In our dissertation work, the implementation of selection works of the Tashkent 1 and Tashkent 2 breeds according to the leading selection characters, the research results are introduced into direct production, and the high technological potential of the new industrial hybrids is achieved. That's why we found it necessary to carry out a set of selection works for traits with leading economic value in the family kennel of Tashkent 1 and Tashkent 2 breeds for 2 years.

It started with determining the reproductive characteristics of Tashkent 1 and Tashkent 2 breeds and selecting the most fertile families for offspring. The obtained results are presented in Table 1.

**Table 1**

**Reproductive indicators of Tashkent 1 and Tashkent 2 breeds (2023).**

| № | Analyzed deposits, pcs | The number of eggs in the barn, pcs | Weight of eggs in a cage, mg | Weight of one egg, mg |
|---|---|---|---|---|
| Tashkent 1 | | | | |
| 1 | 1x12 | 545 | 304 | 0,558 |
| 2 | 12x1 | 571 | 372 | 0,651 |
| 3 | 3x6 | 657 | 379 | 0,577 |
| 4 | 6x3 | 672 | 358 | 0,533 |
| 5 | 11x27 | 571 | 314 | 0,550 |
| 6 | 27x11 | 575 | 355 | 0,617 |
| 7 | 39x2 | 723 | 432 | 0,598 |
| 8 | 2x39 | 454 | 275 | 0,606 |

| 9 | 21x15 | 594 | 336 | 0,566 |
|---|---|---|---|---|
| 10 | 15x21 | 593 | 378 | 0,637 |
| 11 | 17x19 | 588 | 377 | 0,641 |
| 12 | 19x17 | 497 | 397 | 0,799 |
| 13 | 27x41 | 629 | 359 | 0,571 |
| 14 | 41x27 | 651 | 384 | 0,590 |
| 15 | 26x30 | 626 | 360 | 0,575 |
| **n=15** | | **596±12,00** | **359±3,0** | **0,605±0,003** |
| **Tashkent 2** | | | | |
| 1 | **2x9** | 602 | 340 | 0,565 |
| 2 | **9x2** | 691 | 420 | 0,608 |
| 3 | **5x11** | 792 | 470 | 0,593 |
| 4 | **11x5** | 687 | 390 | 0,568 |
| 5 | **15x30** | 693 | 366 | 0,528 |
| 6 | **30x15** | 623 | 379 | 0,608 |
| 7 | **8x7** | 720 | 397 | 0,551 |
| 8 | **7x8** | 844 | 472 | 0,559 |
| 9 | **14x21** | 689 | 352 | 0,511 |
| 10 | **21x14** | 576 | 339 | 0,589 |
| 11 | **58x12** | 711 | 369 | 0,519 |
| 12 | **12x58** | 655 | 346 | 0,528 |
| 13 | **19x7** | 665 | 390 | 0,586 |
| 14 | **7x19** | 469 | 242 | 0,516 |
| **n=16** | | **673±10,5** | **377±6,0** | **559±0,004** |

As can be seen from the figures in Table 1, the Tashkent 1 and Tashkent 2 breeds have high fertility characteristics, as a result of selection work on reproductive indicators, the number of eggs in the laying was 596 eggs in the Tashkent 1 breed, and 673 eggs in the Tashkent breed. . According to the weight of the eggs in the barn, this indicator was equal to 359 mg and 377 mg, respectively. But the weight of one egg decreased significantly. If we pay attention to the coefficient of variation of these two important reproductive traits, this indicator is 8.8%, 8.6% in the mean number of eggs in the clutch by breed and in the weight of the clutch - 9.2%, 7.7%. These indicators indicate that the variability of fertility signs in the breed population is not too low.

At the end of the annual reproductive characteristics analysis, the families of Tashkent 1 and Tashkent 2 breeds with the same genealogy were united, groups were formed, and 100 eggs of each group were sampled to determine egg viability. Worm viability was calculated by determining the number of healthy worms that reached cocooning and pupation in each group.

Table-2

**Egg viability and worm viability of Tashkent 1 and Tashkent 2 breeds (2024).**

| Breeds | Egg revival, % | Liveability of worms, % | Disease percentage, % |
|---|---|---|---|
| Tashkent 1 | 98,4±0,74 | 92,3±0,45 | 1,8±0,13 |
| Tashkent 2 | 98,2±0,26 | 93,6±0,68 | 3,4±0,42 |

Analyzing the egg survival and worm viability indicators in Table 2, we can be sure that important results have been achieved for the silkworm. Breeds Tashkent 1 and Tashkent 2 showed the results according to these indicators - egg survival averaged 98.4%, 98.2% and worm viability - 92.3%, 93.6%. The percentage of the disease was very low, i.e. 1.8% in Tashkent 1 breed and 3.4% in Tashkent 2 breed.

Cocoon productivity is one of the leading traits among traits with economic value. In our selection experiments, we have intensively selected for cocoon weight, cocoon weight and silkiness traits, among other traits. Table 3 shows the characteristics of cocoon productivity of Tashkent 1 and Tashkent 2 breeds.

**Table-3**

**Cocoon productivity of Tashkent 1 and Tashkent 2 breeds (2024).**

| Years | Cocoon weight, g | Cocoon weight, mg | Silkiness, % |
|---|---|---|---|
| | | | |
| Toshkent 1 | 1,79±0,041 | 446±4,9 | 24,9±0,35 |
| Toshkent 2 | 1,86±0,029 | 461±0,30 | 24,7±0,46 |

From the figures in Table 3, it can be seen that the indicators of these characters are at a much higher level. The average cocoon weight and the average weight of the cocoon shell were 1.79 g, 446 mg and 1.86 g and 461 mg in Asaka and Markhamat breeds, respectively, and silkiness was 24.9 % in Tashkent 1 breed and 24 in Tashkent 2 breed. was .7%.

In addition, cocoons bred for two years in family nurseries of two breeds were selected for cocoon shell graininess and cocoon compactness. The above results are mainly the result of this selection methodology.

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