

INFLUENCE OF THE FEEDING AREA ON THE SILKWORM

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Abstract. *The article analyzes the effect of feeding area on silkworms. depending on the thickness of silkworm placement, their feeding conditions also change; if the rearing area, i.e., the surface area, is very large, the silkworms become sparse, lose appetite, and develop slowly. Cocoon yield and quality depend on the size of the rearing area, with 1 box of silkworms being reared at 50 m² yielding 50 kg, and 70 m² yielding 80 kg.*

Keywords: *silkworm, ecological conditions, nutrition, humidity, temperature, adaptation*

An area where a particular insect species is distributed and characterized by specific ecological conditions is called the habitat (station) of a particular species.

Since the silkworm is kept in special buildings, its habitat is called the silkworm rearing area.

The density of the reared caterpillars primarily affects the number of leaves per caterpillar. The area of silkworm rearing was initially very small at the beginning of the 20th century, and the silkworms hatched from one box of eggs were kept on an area of 32 square meters. According to scientists, caterpillars develop well when the feeding level size is optimal. Domesticated silkworms still do not lose the sense of mass cohabitation in flocks[1].

If worms are fed individually or in small groups, they become very anxious. Therefore, depending on the process of growing industrial cocoons from silkworms or feeding silkworms aimed at breeding work, there should be a certain amount of feeding area per box of silkworms.

According to the results of observations of silkworm rearing conditions by scientists from Central Asia and the Caucasus, the increase in the yield of cocoons was directly influenced by expanding the previously established rearing norms by 1.5-2 times.

When feeding five-year-old caterpillars with leafy branches, it is considered most suitable to have a surface area of 1 square meter for every 500 of them or 70 square meters for caterpillars hatched from one box of eggs. Leading scientists indicate that this norm is not strict, since larvae of the first and third instars grow better when fed in certain areas, their excessive thinning negatively affects growth, and the thinning limit of larvae of the fifth instar has not yet been determined. The Baghdad breed, hatched from a box of eggs, achieved excellent results by feeding the caterpillars in their fifth instar on an area of 100 square meters. However, according to him, this conclusion is not yet final, since it requires separate examination both from a biological and economic point of view. Now, regarding

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the density of the larvae of individual ages, the surface area occupied by the larva's body in the first instar expands 5-6 times, and in subsequent instars - 2.5-3.2 times. For feeding larvae that have just hatched from one box of eggs, 0.5 square meters is considered sufficient, that is, the area required for placing one box of eggs during hatching.

In addition, depending on the thickness of the silkworm's placement, their feeding conditions also change, as it is important to prevent this process.

Firstly, when rearing silkworms are placed in excessive thickness, the cuticle layer of the silkworm's skin is extensively damaged, and during rearing, disease-causing microorganisms multiply and infectious microbes begin to accumulate. From this point of view, it should also be noted that under such conditions, the struggle for leaves in worms intensifies, and worms of the backward category begin to appear. Such lagging and weak worms are quite susceptible to infectious diseases, which leads to the spread of infectious diseases.

The size of the silkworm rearing area affects the location and development of the silkworm, and when the area is small, less feed enters each silkworm, the feed is contaminated with silkworm excrement, and the difficulty of evaporating moisture from the nest affects the microclimate, leading to an increase in disease-causing microorganisms. In this case, when silkworms are densely packed, they interfere with each other, crawling over them and wounding the skin with their claws, damaging the blood, as a result of which an increase in the disease is observed, the cocoons wrapped by the silkworm become smaller, and their quality and yield sharply decrease.

If the rearing area, i.e., the surface area, is too large, the silkworms become sparse, lose appetite, and develop slowly. Therefore, the silkworm rearing area should be appropriate for the age of the larvae and carried out according to a specific agricultural technique.

The results of the conducted observations showed that the yield and quality of cocoons depend on the size of the silkworm rearing area, and when 1 box of silkworms was reared at 50 m² - 50 kg, when reared at 70 m² - 80 kg of cocoon yield was obtained.

In younger instars, the size of the rearing area affects the viability of the silkworms, and in older instars, the quality of the cocoons. Advanced silkworm breeders achieved 80-90 kg of cocoon yield by expanding the silkworm rearing area to 70-80 m² [2,3].

As soon as silkworms hatch from eggs, they strive for food, begin to move, and the growth process in the larvae begins with the absorption of food, digestion of mulberry leaves, and the transfer of nutrients and compounds from the midgut into the blood. As a result, it was found that day by day their body parameters and the size, growth of the area occupied by one caterpillar for each age affect the normal nutrition and development of larvae [4,5]. The area occupied by each silkworm by age increases with feeding. In particular, when comparing the area occupied by one caterpillar on the last day of the fifth instar compared to the first instar, we can see that the area occupied by one caterpillar increased 65 times.

Now let's analyze how the size of the larvae changes during the growth and development of the caterpillar. In this case, we see that the size of the caterpillars increased rapidly from age to age, similar to their weight. It was established that the weight of caterpillars reaches its maximum level (5.5g) by the end of the fifth instar. In this case, during the first instar, the larva's weight increased from 0.420 milligrams to 4.97 milligrams or 11.7 times, in the third instar by 385 times, and by the end of the fifth instar, the larva's weight increased 13 thousand times compared to its weight at hatching. Thus, the growth rate of caterpillars increases from the third age and reaches its peak at the fifth age. We came to the conclusion that to ensure high growth and development rates, it is necessary to provide caterpillars (especially from the third instar) not only with nutritious and abundant mulberry leaves, but also with sufficient feeding space.

When comparing the size of the larvae by age with the size of the larvae hatched from the eggs, it was found that at the fifth age, the body size increased by 6946 times. This indicates that the size of the caterpillars increases with each leaf given daily, and it is necessary to take into account the feeding area for their uniform development. The increase in the indicators of the weight and size of silkworms can also be judged by the size of the area occupied by their bodies by age.

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