

# The Importance of the Extending of Primary Reproducing Season of Living Silkworms in a Sharp Continental Climate Areas

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**Abstract:** *When silkworm-eggs are survival bred in differential (step by step) method, it can be realized urgent silkworm breeding method and the breeding season would be finished before hottest days and coarsen of mulberry trees leaves. According to experiences, when the survival period was prolonged to 10-11 days, the delivery process was extended rather longer than usual 2-3 days. When this experience was rechecked in many districts, the delivery process of silkworm cocoons was prolonged to 17-18 days than usual 11-12 days, but before 75-80 % of receipt silkworm cocoons were realized in 4 days, and according to step by step method it was extended to 8 days.*

**Keywords:** cocoon; primary, aggregate; Peak; spring; season; storing; point; chrysalis

## 1. Introduction

The climate of the Middle Asia is considered as a sharp continental and it requires special producing and special primary reproducing of products in agricultural sphere. It also requires to work according to accuracy plan and system in producing agricultural products.

It is known that Uzbekistan is considered as a main country concerned with silkworm breeding in Central Asia [1, 3].

There is mostly breed the Monovoltinog sort and hybrids of silkworm in Uzbekistan, because the climate of the region is sharp continental. That's why the leaves of mulberry trees are soft, flashy and suitable for silkworm consuming in spring season. In summer periods the leaves are rough and tough, and it negatively affects to silkworm nourishment. At the same time it is one of the reasons of falling down of the harvest. To prevent this condition it is important to work out plan of breeding silkworms. Moreover the period of breeding and primary reproducing (mortifying and drying silkworm pupa) and is short (20-25 days) because of putting them to incubation. The power of primary reproducing aggregates of living cocoons (reconciliation of silkworm pupas) are not always enough and it will be the reason of surviving of cocoons. By this way preserved cocoons the quality are decrease. That's why these processes have to done according to clear plan [4, 6].

## 2. Materials and Methods

To properly realize this plan, it requires extending the coming period of silkworm cocoons and keeps the proper duration of preservation of cocoons; provide the working of the warm aggregates in norm. It helps to prevent reduction the quality of the cocoons.

The distributed silkworm-eggs are put to incubation sequentially "step by step" (during 3-5 days). In result of this process silkworm-eggs developed, realized the cocoon curling and maturing processes sequentially.

But this process also depends on weather, except its biological features and mulberry tree leaves quality. It is also very important take into consideration the organization and planning of work, connection of technological processes and supplement of necessary work tools in silkworm nurseries. [3, 6]

## 3. Results and Discussion

It is significant to divide into 3-4 stages the delivered farm eggs and put during the 5-6 days all silkworm-eggs in district main silkworm nursery stations. Silkworm-eggs are put to incubation till appearance 2 leaves in mulberry tree, and in the farms where enough mulberry trees yield it's normal to put till appearance 1 leaf, in the farms where not enough mulberry trees yield it's better to put till appearance 3 leaves. In this case the difference between 1<sup>st</sup> and last farms would be 6 days and created the condition to extension.

When the temperature and moisture of air are normal in mulberry trees' 1<sup>st</sup> and 5<sup>th</sup> leaves, it is appeared one leaf in every 2.5-3 days. In this period the volume of leaves increase and accumulate all necessary micro-elements for development of silkworms. That's why to put silkworm-eggs to incubation till appearance 2 leaves, survive them among appearance 5-6 leaves and distribute are considered the best optimal period.

The aim of extension of primary reproduction season of silkworm cocoons is to extend the working period of warm aggregates. It's necessary to realize the rational working period in the first entrance for silkworm aggregates and provide full working optional routine (90°C).

Hence, the mature periods of silkworms, the time and method of putting them to incubation and survive, silkworm breeding agro-technics, and climate weather condition are closely connected to each other.

It is possible to plan picking and delivering in 2 ways:

1) Natural distribution of theoretical silkworms according to

present rule in daily receipt.  
2) According to statistic indexes of previous years

and primary reproduction of cocoons. Tashkent  
"Oqituvchi", pp. 100-116.

The receipt of silkworms to the stations is not rational and it divides into 3 periods:

- 1) Growing period of silkworm receipt
- 2) The most receipted period
- 3) Increasing period of silkworm receipt

In the first stage the receipt of silkworms grow day by day. By this way the receipt of matured caterpillars of silkworms increases consequently. This period lasts till "peak" times of receipt.

"Peak" times it delivers more than 20% silkworms to silkworm stations. These days prolongs just 3-4 days, and during this short time is prepared 55-70% silkworm cocoons according to yearly plan. Decrease time the amount of receipt proportionally reduces than increase time [2, 6].

#### 4. Conclusions

Therefore, it is economically effective to breed silkworms and plan the delivery periods of bred silkworms day by day, provide the rationally reproduction performances, prevent to shrink of cocoons' shell before and after reproduction in hot aggregates and avoid growth of mottled cocoons.

When silkworm-eggs are survival bred in differential (step by step) method, it can be realized urgent silkworm breeding method and the breeding season would be finished before hottest days and coarsen of mulberry trees leaves. According to experiences, when the survival period was prolonged to 10-11 days, the delivery process was extended rather longer than usual 2-3 days. When this experience was rechecked in many districts, the delivery process of silkworm cocoons was prolonged to 17-18 days than usual 11-12 days, but before 75-80 % of receipt silkworm cocoons were realized in 4 days, and according to step by step method it was extended to 8 days.

The period of beginning and finishing of the silkworm cocoons preparing season, the amount of receipt silkworm cocoons during a day and other silkworm cocoons preparing indexes, regulated processes (survival duration, temperature and other conditions), and unregulated processes (development of mulberry tree leaves, weather control) are main features of silkworm breeding period.

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