THE INFLUENCE OF THE EXTERNAL ENVIRONMENT ON THE EMERGENCE AND MATING OF BUTTERFLIES.

M.Bobomurodov.

Senior lecturer at the

Termez Institute of Agrotechnology and Innovative Development

M.Khushmurodov

Assistant at the

Termez Institute of Agrotechnology and Innovative Development

O'.Navbadgeldiyeva

Student of Termez Institute of Agrotechnology and Innovative Development

R.Abrahmatov

Student of Termez Institute of Agrotechnology and Innovative Development

Sh.Bo'riyeva

Student of Termez Institute of Agrotechnology and Innovative Development

ANNOTATION: *The main external factors that affect the life of living organisms include nutrition, ambient temperature, ambient humidity, gas exchange, and more. Since the mulberry silkworm does not have its own body temperature, the ambient air temperature has a great influence on its growth and development.*

KEYWORDS: external environment, gas exchange, emergence, butterfly.

The development of silkworms, cocoon wrapping, and reproduction take place in close connection with the external environment. For example, the butterfly, which is the last period of the silkworm, leaves its offspring, which is often closely related to the external environment.

The butterfly is the last stage in the development of the silkworm. After the fungus turns into a butterfly, the skin cracks for the last time and a butterfly emerges. The butterfly draws two or three drops of alkali-like liquid from its beak through its mouth and moistens one of the cocoon poles with this liquid. After wetting one pole of the cocoon with this liquid, the butterfly dissolves the cocoon shell, and the butterfly pushes the silk fibers from side to side with its head and legs, making a hole and coming out. The butterfly, which has just hatched from the cocoon, is soaked in the liquid formed during the shedding of its skin, and therefore its cocoons are attached to its body, with its wings unwashed. As this fluid dries, the butterfly's wings expand, the air that enters its trachea reduces its specific gravity, and the butterfly begins to move.

The mulberry silkworm moth usually emerges from the cocoon as early as dawn (4-5 in the morning) and emerges by 9-11 p.m. Most of the time, they leave the cocoon at 6-9 o'clock in the morning. Afternoon discharge is rare. Mulberry silkworm butterflies have been shown to respond well to light. The transmission of light in a certain mode causes a certain change in the rhythm of the butterflies during the day. For example, in natural light,

Table 1

Variation of mulberry silkworm moth hatching times during the day under the influence of light (in%)

Options	Clock lighting hours.	Hours of butterfly emergence from the cocoon during the day(%)					
		5	9	13	17	21	24
Option-1	Morning hours 7 and 21 until	9.76	89.16	1.08	-	-	-
Option-2	It's noon 12 from late hours18 until	4.65	69.75	2.30	23.30	-	-
Option-3	It's late18and 24 until	1.10	7.70	11.10	51.20	27.80	1.10
Option-4	It's late t 24 from in the morning6 until	21.85	25.25	-	25.30	20.70	6.90
Option-5	When illuminated during the day	29.05	9.65	11.85	11.85	27.90	9.70

From the data presented in the table, it can be seen that changes in the light regime may have a targeted effect on the cocoon butterfly production during seed germination in seed plants.

Changing the light regime during mulberry silkworm feeding and cocoon wrapping does not affect the timing of the cocoon's emergence. Light is only effective on the last day of the bubble period, when a butterfly has formed inside the bubble. This effect is the same for the fungi inside the cocoon and for the fungi isolated from the cocoon. This means that the cocoon shell does not block light from entering and being exposed

Temperature also has a large effect on the emergence of butterflies from cocoons. Based on the variants obtained in our experiments, we obtained 200 live cocoons and observed the emergence of butterflies by keeping them at a moderate temperature (24-270C) and humidity (65-75%).

2-table

The effect of moderate temperature and humidity on the emergence of butterflies from living cocoons**(**24-270S 65-75%)

Options	The amount of cocoons obtained	The number of cocoons harvested for a biological indicator	Number of cocoons used for butterflies, pcs	The number of cocoons left by the butterfly,	The butterfly that did not come out % da	Micro-analysis	
						Polyhedrosis	Pebrina
Options -1	200	50	150	15.0	90,5	-	-
Options	200	50	150	9.0	94,4	-	-

2							
Options 3	200	50	150	10.0	93.0	-	-
Options 4	200	50	150	12 .0	92.5	-	-
Options 5	200	50	150	7 .0	95.5	-	-

In the variants listed in the table, we observed butterfly emergence from the cocoon, keeping the live cocoons only at the same temperature and humidity. In this case, 200 cocoons are obtained in 5 variants, of which 50 cocoons from each variant are used for biological indicators, and 150 cocoons are used for butterfly production.

A butterfly that has just hatched from a cocoon is soaked in the liquid that is formed during the shedding of its skin, so its coins stick to its body and its wings are not stretched. As this liquid dries, the butterfly's wings begin to stretch. The air that enters the trachea reduces its specific gravity and the butterfly begins to move

The main activities of the butterfly are reproduction, mating, fertilization and egg laying. At this time, the butterfly needs a moderate temperature and humidity, otherwise the butterfly will not be able to mate because it does not have its own body temperature. Therefore, when working with butterflies in breeding and seed establishments, it is necessary to maintain a normal room temperature and humidity. When working with butterflies, when the room temperature is below 150C, the butterflies cannot stop moving and mate. Butterflies do not mate well even at temperatures above 300C. The optimum temperature at which butterflies can mate well is 24-270C.

Along with room temperature, humidity also affects butterfly mating. If the room humidity is below 50% and above 80%, the butterflies will have difficulty breathing, their movement and mating will slow down, and seed separation will slow down. The butterfly needs 65-75% humidity to breathe well and mate

Defective butterflies must be identified during the collection and mating of butterflies. Such cocoons must be discarded, and spotted butterflies must be examined under a microscope, and if a pebrina is found, such a batch of cocoons will be discarded. Butterflies from this batch must be incinerated with seeds, and containers with sick cocoons must be disinfected.

The mating of the butterflies should take at least two hours, after which they are separated, the females are placed in paper bags or boxes, the male butterfly is examined and the weak ones are discarded, and the rest are placed on papillary beds and kept in a cool, dark place. These male butterflies can be reused the next day or even the same day, but they must rest for at least 3-4 hours. Reuse of male butterflies allows you to save some of the cocoons in the male group.

There are several ways to insulate butterflies. Based on the method of combating pebrina proposed by L. Pasteur, each butterfly is placed in some kind of insulation (bag, box, gauze, metal cup, etc.).

Pebrina disease is transmitted to the offspring by a female butterfly. If the butterfly is examined and found to contain pebrina, all the seeds it leaves will be lost, as they will also be infected to some extent. , in which he leaves a seed, so that we know that this seed was left by this butterfly.

Different materials and different densities are used for insulation. One bag is filled with 1,2 and 3 female butterflies. The big bag is filled with 5 female butterflies and the end of the cardboard boxes is filled with 50 and 100 female butterflies.

If the butterflies are insulated in cardboard or paper boxes, 5-10 of them are tied together and stored in special trays, each box should be placed so that it is full of seeds in the box

keep it cool. Butterflies usually lay their seeds for 3-4 days, of which 70-80% leave on the first day, 15-20% on the second day and the rest on the third and fourth days.

It should be noted that the seeds left by the butterfly on the first day are of good quality, as they are fully formed at the bottom of the avariol and until the butterfly emerges from the cocoon. In the last days, the butterfly leaves the seeds formed after the cocoon emerges

The seeds of the silkworm are simple, egg-shaped, with narrow sides, a slightly hollow in the middle, and an oval shape.

Table 3

Indicators of the average mass of a single seed depending on the silkworm breed.

№	The name of a silkworm breed or hybrid	Seed indicators			
		Average mass of 1 seed, mg	Number of seeds per 1g, pcs	Number of seeds in 1 box, pcs	Seed revival rate
1	Tetragibrid-3	0.620	1610	46690	94-97
2	Asaka	0.540	1830	53080	92-98

3	Marxamat	0.530	1880	54300	92-98
4	Asaka-Marhamat	0.530	1900	54200	92-98
5	Marhamat-Asaka	0.540	1840	53100	92-98
6	O'zbekiskiy-3	0.600	1700	49300	94.1
7	O'zbekiskiy-4	0.500	1800	52200	97.2

The color of the freshly laid egg is light yellow, which lasts from 2-3 days to light yellow to pink, then to reddish-brown, and finally to gray-gray.

The true color of winter seeds is gray. The color of the self-sustaining seeds of the Bivoltin breed remains pale yellow throughout the incubation period.

The color of an unfertilized egg of any breed is always yellow. A few days after the egg is laid, it flattens out and takes on the shape of a cake

Seeds that are fertilized but die within the first three days after egg laying also dry out and take the form of flat plates, but they are pink, orange, and brown in color.

The size of the seeds depends on the breed of mulberry silkworm, its voltage and the conditions of its feeding during the worm - agrotechnics.

For example, the eggs of silkworms of the large cocoon monovoltin breed are much larger than those of the polyvoltin breed. If the silkworms are not fed well, the weight of the eggs will be significantly reduced.

The mass of freshly laid eggs is a little heavier. As it is preserved, the mass of the eggs decreases. During the spring sowing season the mass of the eggs, in particular, decreases, because at this time the embryo develops rapidly. By the end of the incubation period, the mass of the eggs decreases by an average of 16-18%

The thickness of the eggshell also depends on the silkworm breed, the cocoon of the large cocoon monovoltin is 2.5-3 times thicker than that of the bivoltin and polyvoltin breeds. The shell of a well-developed silkworm egg is on average 4-5 microns. The surface of the eggshell has stripes in the form of separate triangles separated by whiter paths, so the worm's seed looks hollow when viewed through a magnifying glass.

Slightly to the side of the tip of the egg is a small (micropillar) hole that is invisible. Through this hole, sperm enter the egg and fertilize it. The mouth of the micropillar hole is lined with pictures resembling the petals of a flower. Everywhere in the shell of the egg there are thin tubes through which air enters, through which the seed breathes.

REFERENCES

1. Абдуллаев У А.-Тутчилик. Тошкент. «Меҳнат» нашриёти, 1991
2. Абдурахимов.Х.А, Ахмедов.У.К, Парпиев.Б.А.-Повышение питательности осеннего листа шелковицы. «Шелк», 1981, №2, с.14.
3. Абдурахмонов.А, Парпиев.Б.А, Хафизова.Т-Влияние биостимулятора силатрана на продуктивные и репродуктивные свойства тутового шелкопряда «Шелк», №5, 1985, с.14-15
4. Акименко. Л.М, Браславский. Е.М-Результатыселекции пород для различных сезонов выкормки. Материалы IIIвсесоюзного семинара-совещания по генетике и селекции шелкопряда и шелковицы. Ташкент-1981, с. 31-33.
5. Аҳмедов Н.А.-Тут ипаккуртинингозиқланишмуддати. «Ипак» журнали 1999, №1