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# **Ecologicaly Clean Electrotechnological Method of Disinfection And Stimulation Of Silkworm Grenes**

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**ABSTRACT:** The article presents the results of the above research work on the purification of silkworm eggs (grenn) of silkworms from harmful microorganisms, with the aim of accelerating their development, as well as increasing the simultaneity of revitalizing gren during the incubation period, improving viability during feeding, and increasing the efficiency of obtaining cocoons based on processing of electroactivated water and exposure to ultraviolet rays.

**KEY WORDS:** silkworm (grena) eggs, ultraviolet radiation, catholyte, vitality, electroactivated water, friendship of revitalization, stimulation, anolyte, alkaline environment, acidic environment, hydrogen index.

## **I. INTRODUCTION**

In the republic, continuous, sequential measures are being taken to develop the cocoon production industry, introduce modern, innovative technologies in the production of cocoons and their processing, increase production volumes and an expert in silk products, as well as directly attract foreign investment to the industry.

Resolutions of the President of the Republic of Uzbekistan dated August 20, 2018 "On measures and measures for even more corrective use of the existing opportunities in the silk industry in the Republic" under the numbers PK-3910 and dated December 4, 2018 "On additional measures and measures to support the accelerated development of the silk industry in the Republic "Aimed at eliminating existing problems and shortcomings in the field of silkworm breeding[1,2].

## **II. RELATED WORK**

Also the main part of silkworm grenades is currently imported from abroad for foreign currency. In 20018, about 80% of the silkworm seed was imported from China.

The work was carried out in 2019 in the month of August, because in the autumn season, in the process of simultaneous revitalization of the caterpillars, productivity is significantly low compared to the spring seasons.

Our research work in order to increase the simultaneous revitalization of silkworm caterpillars, vitality, as well as productivity consisted first in irradiating silkworm greens with ultraviolet rays (UV), followed by treatment with anolytic and catholytic parts activated with electroactivated water (EAV).

## **III. LITERATURE SURVEY**

When it turned out that the grens were cleared of harmful microorganisms and the sweat properties disappeared.

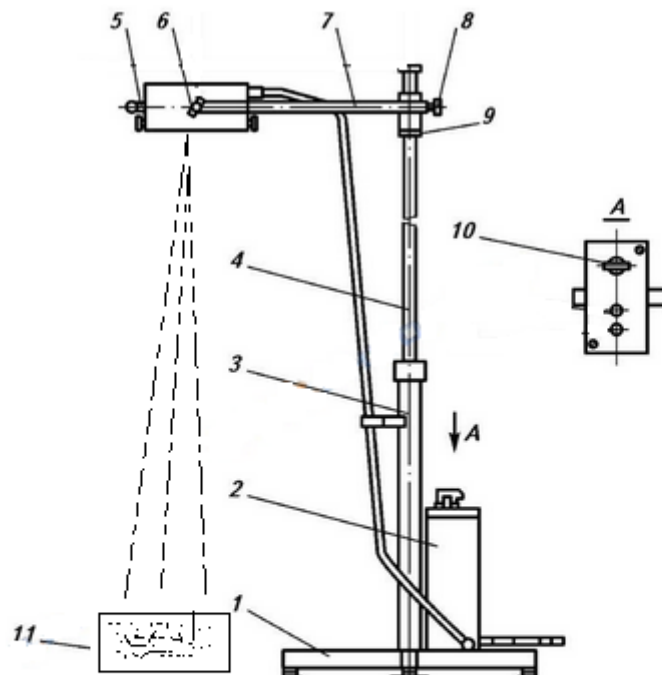
The research was carried out in cooperation with the Chartak enterprise "limited liability company

"Invest Agropilla" and the Scientific Research Institute of Sericulture in the autumn season of cocoon preparation. As already noted, the vitality of the gren, the friendliness of the revitalization of the grains obtained in the spring season, in comparison with the grains obtained in the autumn season, are distinguished by high production efficiency and good quality.

**IV. METHODOLOGY**

The experiments consist of 4 variants and the 1st variant is chosen as a control variant of the current method. In this embodiment, silkworm grains were washed 7 times with ordinary tap water and chemically treated. In the 2nd variant, the greens were irradiated with a UV irradiator from a height of 40 cm and treated with EAS; in the 4th variant, the greens were irradiated from a height of 60 cm with a UV irradiator and treated with EAV.

The images of the UV irradiator used in the experiment can be seen in Picture 1



**1- General view of the irradiator**

- |                     |                                 |
|---------------------|---------------------------------|
| 1 - Bottom part     | 5 - screen slider               |
| 2 - Starter         | 6 -lamps 7- lamp holder 8- Bolt |
| 3 - Height adjuster | 9-washer 10- starter            |
| 4 - Pull-out rack   | 11-irradiated object            |

This irradiation device of the DRT type is adapted to operate at a voltage of 220 V, is capable of irradiating at a wavelength of 240-320 nm and comes to a stable state 2 minutes after starting to work. The installation is adapted for changing and adjusting the irradiation distance.

**V. EXPERIMENTAL RESULTS**

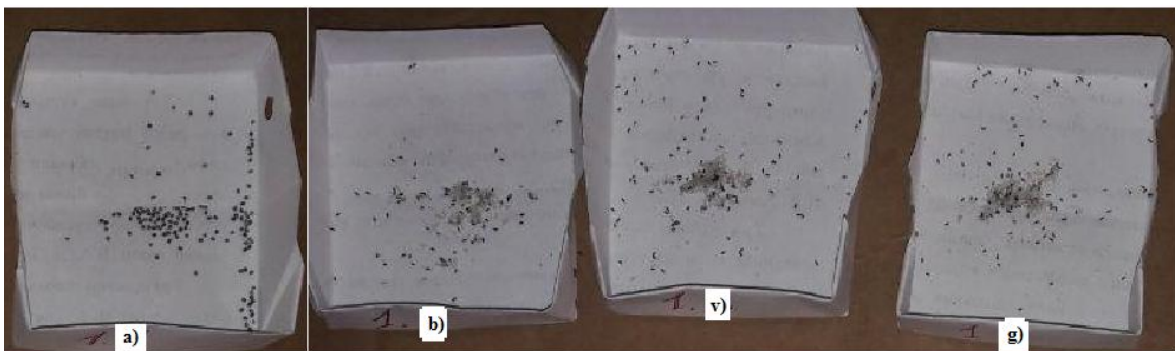
Research results that, in comparison with the 1st control method in the 2nd variant, we predict when silkworms were irradiated with 20 cm growth beams. 2 ÷ 4 EAV per 200 units of grain 200 ml of consumption, as well as in order to increase the speed revitalization grenades were washed 1 time with a catholyte part (liquid with an alkaline medium with a pH of 8 ÷ 9) EAS at the rate of 200 pieces of green 200 ml of consumption the revivality was 87.5%, compared with the control it arose by 60.5%, in 3 m version, that is, when silkworms were irradiated from a height of 40 cm with UV rays to cleanse harmful microorganisms, they were washed once with an anolyte part (a liquid with an acidic medium with a pH of 2 ÷ 4 per 200 units of 200 ml of flow rate, as well as in order to increase The revitalization of the greens was washed 1 time with the catholyte part of the EAV (a liquid with a silk medium with a pH of 8-9) at the rate

of 200 units of green 200 ml of consumption the revival was 91%, compared with the control variant it increased by 63% and in the 4th variant, that is, when silkworms were irradiated from a height of 60 cm with UV rays, they were washed once with an anolyte part (liquid with an acidic medium with pH2-4) in order to cleanse the greens of harmful microorganisms at the rate of 200 pcs. to increase the friendliness of the revitalization, the greens were washed once with a catholyte part (a liquid with a silk medium with a pH of 8-9) at the rate of 200 pieces of greens 200 ml of consumption, the amicability of revival was 80%, compared with the control variant it increased by 52%. The results are shown in table 1 and in the diagram [3,4,5].

1-table

**Results of treatment of silkworm greens with UV irradiation and EAV**

№	Options	Wavelength of UV rays, nm	The number of grains taken for the experience, pcs	Anolyte			Catholyte			The number of lively greens, PC	Animation friendliness,%
				pH	Rh mV	Consumption, ml	pH	Rh mV	Consumption, ml		
1	Working method (control)	-	200	-		700			700	56	28
2	UV treatment at a height of 20 cm rays and EAV	240-320	200	2-4	1300-1100	200	8-9	-700...-1000	200	175	87.5
3	UV treatment at a height of 40 cm and EAV	240-320	200	2-4	1300-1100	200	8-9	-700...-1000	200	182	91
4	UV treatment at a height of 60 cm and EAV	240-320	200	2-4	1300-1100	200	8-9	-700...-1000	200	160	80



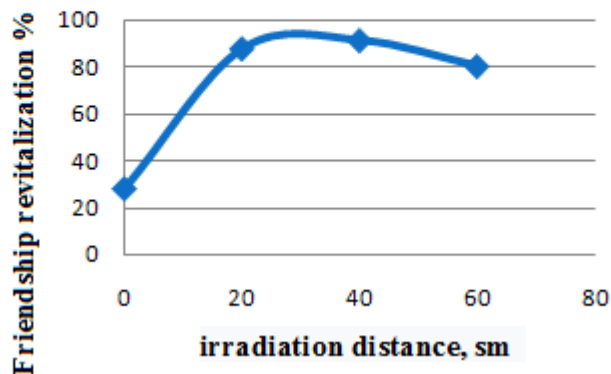
Picture 2 After incubation of revived green according to options a) control b) second option v) third option g) fourth option



Figure 3. The process of feeding the caterpillars

**Chart -1**

**Diagram of the dependence of the friendship of the revitalization  
of silkworm caterpillars from irradiation with UV ray**



## VI. CONCLUSION AND FUTURE WORK

Based on the studies carried out, the analysis of the 1st diagram for the 3rd variant of the preparation of silkworm greens and during the incubation period, the treatment with electroactivated water of pH and contrast medium, as well as UV rays leads to the following:

- increase in the friendliness of the revitalization of greens during the incubation period;
- improving the ability to live when feeding caterpillars;
- increase in productivity in the process of obtaining cocoons;
- improving the quality of cocoons.

Research results fully support these findings.

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