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Effectiveness of Chemicals Used in Disinfection of Incubatories and Cattle Houses for Feeding Breeding Silkworms

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Annotation: In clusters, farms and farms specializing in cocoons operating in our republic, during the season of worm breeding, disinfection of hatcheries and worm houses is an effective method, if compared to monochloramine, sodium hypochlorite or septoside disinfectant chemicals are used, which are 4.5-5 times cheaper and more effective. scientifically proven to be.

Keywords: Agriculture, sericulture, cluster, cocoon specialized and farms, hatchery, worm house, disease-causing bacteria, virus, fungus, single-cell spores, infectious and non-infectious diseases, incubator, worm house, disinfection, biological, ecological, chemical method, formalin, monochloramine, sodium hypochlorite, calcium hypochlorite, concentration, heat, liter, water, level, equipment, inventory, working solution, automax, mutagen.

Introduction. Biological, ecological, and chemical methods of combating bacteria, viruses, fungi, and basic single-celled spores, which usually cause diseases in the agricultural sector, are known:

- direct sunlight has an environmentally friendly disinfecting property;
- dry heat disease-causing microorganisms are killed by ironing on everyday clothes, scarves, towels and other fabrics in dry heat drying cabinets;
- it is possible to disinfect by generating boiling water steam or wet heat in autoclave or steam equipment;
- chemical disinfection: this method is the basis of disinfection and is used in all fields.;

Until now, chemical substances are mainly used in the production of silk as a means of disinfection.

Main part:

Highly effective chemicals are also used in the field of sericulture to combat infectious and non-infectious diseases and pests. Among them, formalin substance (SN2O) is colorless, has a very suffocating, unpleasant smell, and turns into formic acid when Ph- acidity increases.

Melting temperature + 190C

Boiling temperature + 990C

Its mass is equal to 30.03 g/mol

Density - 815 kg/m3

According to its composition, this organic substance is easily soluble in water and acetone, and the solution of formalin in water is called methanol. Usually, technical formalin was produced in the form of a solution with a concentration of 37-40% and stored in special chemical containers.

In general, formalin is used as a disinfectant along with the production of various toxic pesticides. It is a dangerous chemical substance that decomposes protein substances, corrodes metal structures, negatively affects human health, and causes mutagenic diseases.

For disinfection of mulberry silkworm seed storage rooms, seed reviving incubators and worm houses, as well as equipment, inventories and leaf storage rooms used in worm feeding, a 4% working solution or 10% working solution for worm houses with infectious diseases is used.

For this, if 8 or 9 liters of water are added to 1 liter of formalin with a concentration of 36-40%, a 4% working solution is ready.

In fact, the use of "Sodium hypochlorite" or "Calcium hypochlorite" in the field of sericulture, according to the need for modern sericulture, is easy, convenient, productive and economically cheap disinfectant chemicals, which economically contributes greatly to the weight of cocoons grown in sericulture.

One of the most effective and modern disinfectants is sodium hypochlorite, an inorganic substance produced by hydrolyzing table salt in the form of a liquid solution with a concentration of 17%.

Sour has acidic properties;

Chemical formula – Na O CL;

Density - 1.11 cm^3

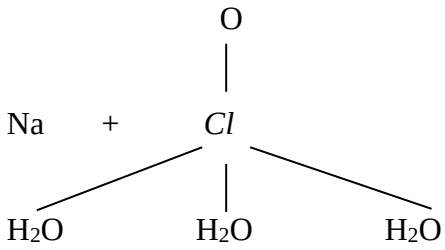
Molecular mass is equal to 74.44 g/mol;

Melting temperature - 18^0 C;

Boiling temperature-101^0 C;

Solvent water.

The chemical structure of the working solution "Sodium hypochlorite":



In general, it is disinfected with a 0.5% solution of "Sodium hypochlorite". To prepare a 0.5% working solution, 96 ml/liter of water + 4.2 ml/liter of a 17% concentrated solution of "Sodium hypochlorite" is added. As a result, a 100 ml/liter 0.5% liquid disinfectant working solution for 1 m^2 of the surface is created. More precisely, if we add 0.4 liters of 17% "Sodium hypochlorite" solution to 9.6 liters of water, 10 liters of 0.5% disinfectant working solution will be created. The consumption of the working solution is 100 per 1 m^2 surface level m/liter. If we prepared 10 liters, we can disinfect 100 m2 of surface. It should not be forgotten that after placing the equipment used in the disinfection room, incubator equipment and racks in advance, the incubator or worm houses are heated above +250 +260C, and then the final disinfection is carried out. In addition, equipment, inventories, shelves, walls and floors used in hatcheries and worm houses are wiped with a rag soaked in the solution. However, spraying the prepared working solution with automax or regular spray equipment gives good results.

However, "Sodium hypochlorite" is safe and does not suffocate or poison the person working with it. It also does not cause mutagenic diseases. It improves the natural ecological and hygienic conditions of the building. It ranks high among disinfectants due to its quick action, easy availability, ease of use, and cheapness.

We can explain in this table according to the results of our experiments that the economic efficiency is 4-7 times higher than that of other disinfectants.

Table 1

№	Purpose and purpose of disinfection	Monochloramine	Sodium hypochloride (sodium chloride)
1.	Full and fast acting (in hours)	24	2-2.5
2.	Solubility in water	Easy	Easy
3.	Duration of storage of the working solution (in hours)	48	120
4.	Transportation	Inconvenient	Inconvenient
5.	Security level	High	Low
6.	Effects on equipment and tools	Corrosive	Does not affect
7.	The smell	Suffocating	Weak
8.	Cheap and easy to buy	Produced in Russia	It is produced in Uzbekistan
9.	Ease of use	With Automax	Normal spray, automax and wet wipe
10.	The price of production at the factory is in soums per 1 liter	14000	4000
11.	Cost amount for 1 m^2 surface level	5300-5500	1600-1850
12.	Induction of mutagenic disease in humans	It causes allergies and ischemic diseases	Does not provoke

As can be seen from the data in Table 1, sodium hypochlorite is superior in all respects. In particular, the 7 times lower cost compared to formalin serves as an important economic basis in the field of

silk production.

In the production of disinfection formalin or an activated solution of monochloramine is used more often.

In fact, before carrying out the disinfection event, equipment and trays for the incubator should be placed and equipped. Then the doors and windows are tightly closed, providing warmth. After spraying the disinfection solution, it is closed for a day. On the second day, the doors and windows are opened and aired, and they are kept clean and tidy until the seeds are laid.

At present, hatcheries are disinfected as follows: 0.5 percent liquid disinfectant solution is added to 96 milliliters of water + 4.2 milliliters of sodium hypochlorite per square meter of surface (1 m2), and the floor or other washing and wiping equipment is soaked with a rag. washed with rubber gloves. Walls and ceilings are also wiped or the liquid is sprayed in an automax.

Disinfectant 0.5 percent sodium hypochlorite solution is calculated for every 100 milligrams per 1 m2. For example, if the surface of the floor is 15 m2, 63 milliliters of sodium hypochlorite liquid is added to 1437 milliliters of water to make 1500 milliliters of 0.5 percent disinfectant solution.

In addition to sodium hypochlorite solution, septodez 0.5 percent disinfecting solution can also be widely used for disinfecting the incubator. 0.5 percent septoside solution is prepared as follows. Consumption of the solution is 100 milliliters per 1 m2 surface. Pour 98.5 ml of water + 0.5 ml of septoside liquid. For a surface area of 15 m2, 1492.5 ml of water + 7.5 ml of septoside liquid are added and 1500 ml of working solution is formed. In this case, the surfaces are washed, wiped and sprayed in the automax apparatus.

Let's say, if the wall of the hatchery is 48 m2, then how much will be required from the 0.5% sodium hypochlorite disinfection solution: 4598.4 ml of water + 201.6 ml of sodium hypochlorite to make a total of 4800.0 ml of solution

or 0.5% septoside disinfection solution for 48 m2 of wall surface: 4800.0 ml of solution is ready if +24.0 ml of septozoide liquid is added to 4776.0 ml of water.

Conclusion.

It can be seen from the data analyzed above that in the clusters, farms and farms specializing in cocooning operating in our republic, during the season of worm rearing, when disinfecting hatcheries and worm houses, sodium hypochlorite or septoside disinfectant chemicals are used compared to monochloramine 4.5- It has been scientifically proven to be 5 times cheaper and more effective.

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