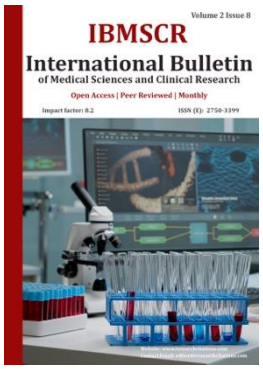

OBTAINING QUALITY RAW SILK BY PROCESSING COCOON , A RAW MATERIAL FOR TEXTILE PRODUCTION, WITH THE HELP OF CHEMICALS

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Annotatsiya: Mazkur maqolada pillakashlik sanoatida mahsulot ishlab chiqarish jarayonida qo‘llaniladigan preparatlar va ularning sifatli xom ashyo – ipak olishga ta’siri o‘rganilgan. Ishda ipak qurti pilla tolasini ajratish, uni dastlabki qayta ishlash va toza ipak olish bosqichlaridagi kimyoviy preparatlar roli tahlil qilinadi. Preparatlarning turlari, ulardan foydalanish usullari hamda optimal texnologik rejimlar asosida yuqori sifatli ipak olishga erishish imkoniyatlari ko‘rib chiqilgan.

Kalit so‘zlar: Pillakashlik sanoati, ipak tolasi, xom ashyo, seritsin, fibroin, kimyoviy preparatlar, pilla qayta ishlash, sifatli ipak olish.

Abstract: Abstract. This article studies the preparations used in the cocoon industry during the production process and their impact on obtaining high-quality raw materials - silk. The work analyzes the role of chemical preparations in the stages of separation of silkworm cocoon fiber, its initial processing and obtaining pure silk. The types of preparations, methods of their use, and the possibilities of achieving high-quality silk based on optimal technological regimes are considered.

Keywords: Silk industry, silk fiber, raw materials, sericin, fibroin, chemical preparations, cocoon processing, obtaining high-quality silk.

Today, the silk industry is one of the most important sectors of the textile industry. Silk is a high-quality, natural fibrous material, the process of its production includes several technological stages. The extraction of fibroin and sericin from the cocoon directly affects the quality of pure silk fiber. The chemical preparations used in this process determine the color, strength and purity of the silk. Therefore, the selection of preparations, the method of their use and technological regimes play a key role in obtaining high-quality silk.

The assessment of the quality of cocoon products and other types of products is based on the results obtained in determining and measuring their quality indicators, as well as their assessment in comparison with standards and regulatory documents. Since the methods for determining product properties are mainly detailed in standards and other regulatory documents. There are several methods for assessing the quality of cocoon products, including instrumental, organoleptic, expert, sociological, calculated, differential, complex and mixed.

The composition of the cocoon and its initial processing stages are chemical preparations. The cocoon mainly consists of fibroin (silk fiber) and sericin (adhesive layer). To obtain high-quality silk, the cocoon is first washed in cold and hot water, then boiled. At this stage, various chemical preparations are used to dissolve the sericin and ensure the opening of the fiber.

There are various types of chemical preparations. The main preparations used in silk extraction technology are: -soda (Na_2CO_3) – to soften sericin and loosen the fiber.

-water-soluble neutral or alkaline surfactants (SPM) – for cleaning the cocoon surface.

-acidic solutions - in some cases help to completely extract sericin.

There are optimal technological regimes that ensure the quality of raw cocoons. The temperature of the water used for boiling the cocoons should be around 90–100°C. The boiling and cleaning time is 30–60 minutes. The concentration of soda is 0.1–0.5%. The concentration of the preparations is selected depending on the release of sericin and the condition of the fiber.

The main indicators of obtaining quality silk are: -the smoothness and luster of the fiber;

-strength;

-purity and absence of sericin;

-be colorless or of the same color.

Organic extracts (green technology) are used in the requirements of biological enzymes. This not only does not harm the environment, but also makes the product environmentally safe

Effective work is being carried out to ensure environmental safety and resource conservation. Modern technologies emphasize the use of environmentally friendly, natural or biodegradable products. This not only helps to avoid harm to the environment, but also preserves the ecological purity of the product. These technologies maximize the use of cocoon raw materials, turn high-quality silk into an export-oriented product, save resources in the industry, and reduce waste.

Chemical preparations used in silk production technology directly affect the quality of the product. Their correct selection and use in optimal technological regimes increases the possibility of obtaining high-quality raw materials - silk. Ensuring environmental safety is also an urgent issue, and this issue can be solved by developing and introducing modern bio-preparations.

Chemicals used in the silk industry are used at various stages of the production process. These include cleaning agents, dyes, bactericides and fungicides, as well as chemicals used in the cocoon and silk drying processes.

Cleaning agents: These preparations are used to ensure the cleanliness of the cocoon or silk before it is processed. They remove impurities, oils, and other unwanted substances present in the raw material. The cleaning process improves the quality and makes the cocoon or silk of high quality and strength.

Dyes and color changing agents: The process of dyeing cocoons and silk is also important in the silk industry. Chemical dyes improve the aesthetics of the product, ensure its color change and quality. The agents used in color changing also increase the price of the product. Bactericidal and fungicidal agents: These agents are used in the production of silk, as well as in the drying process of cocoons and silk. They prevent damage that may occur to the cocoons or silk by bacteria and fungi. The antiseptic properties provided by chemical agents increase the environmental safety of production.

When choosing chemical preparations, industry experts take into account a number of factors. First of all, the suitability of the preparations for the technological process and their effect on the quality of the product are determined. They are subjected to various laboratory tests and trials, and substances that provide optimal results are selected. For example, chemical preparations used in cleaning cocoons or silk play an important role in increasing their strength and improving their color.

When evaluating the effectiveness of chemical preparations, decisions are made based on several indicators. Among these, production efficiency, resource efficiency, and environmental safety are the most important factors. For example, if a chemical requires more energy or water, this may lead to the production process being uneconomical. The level of environmental impact is also taken into account.

Technological innovations and new materials are being sought to optimize the processes in which chemical preparations are used. This, on the one hand, increases production efficiency, and on the other hand, ensures environmental safety. When assessing the effectiveness of chemical preparations, their potential to reduce production costs and reduce waste is also important.

Conclusion: The construction industry, as one of the important sectors of the modern economy, requires the use of chemical preparations in production processes. However, the use of these preparations can cause a number of problems, including environmental hazards, worker health, costs and quality control issues. Each problem has its own solutions, and these problems can be overcome by taking effective measures. To reduce environmental impact, it is necessary to select environmentally friendly chemicals and implement waste treatment technologies. To protect the health of workers, it is important to strengthen safety measures, provide protective equipment and organize regular training processes. It is also necessary to introduce efficient technologies, save resources and cooperate to reduce the rising cost of chemicals and production costs. By reducing uncertainties in the quality control of chemical preparations and optimizing technological processes, it is possible to improve product quality and reduce processing costs. All these measures not only increase production efficiency, but also protect the environment and ensure the economic efficiency of the enterprise. At the same time, by solving each problem that arises in the process of using chemical preparations, it is possible to increase the efficiency of the industry, ensure safety and ensure environmental safety. Such approaches serve as an important factor in the development of the industry.

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