

DYEING BASED ON AMMARANT FLOWERS AND JAPANESE Saffron FLOWER BUDS AND PROSPECTS FOR ITS USE

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Abstract. *In this article, despite the fact that artificial flowers are bright and beautiful, they are harmful for children and people with certain allergies. For this reason, scientific researches were carried out on the dyes used for dyeing wool and woollen products using natural dyes in ancient times.*

Keywords: *japanese safora, ultra violet, amaranth, nickel, iron, lead, incense, gasoline, hydrogen peroxide, NaOH, Ca(OH)₂, NaCl, soda.*

INTRODUCTION

In the period of the current international economic crisis, improving the living conditions of all layers of the population remains one of the main issues. Including, correct use of natural raw materials is important in solving this problem. New types and import-substitute products produced in Uzbekistan will reduce the cost of technological processes in the production of high-quality and aesthetic products using local raw materials. Instead of imported paints, available in Uzbekistan. dyes obtained from plants reduce the cost of the product.

The use of dye plants in agriculture in Uzbekistan has a long history. At present, car interior equipment, women's vests, bags and other household products are made from felt. But due to the use of artificial colors in the production of these products, low-quality products and causing a number of skin diseases affecting human health are becoming one of the urgent problems.

LITERATURE ANALYSIS AND METHODS

On the basis of ready-made products in nature, mankind has prepared household items and clothes. The large number of animal species in the environment, and the abundance of wool in some of them means that they can be used. Clothes, carpets and other equipment were made especially from the wool of domesticated sheep, goats and other animals. Wool is distinguished by its softness, hardness, resistance to sun and rain. They were first used in felts. Ready-made felt, felts were based on carpets, rugs, and various household items. The technology of painting these products is an important field. However, despite the fact that artificial flowers are bright and beautiful, they are harmful for children and people with certain allergies. For this reason, scientific research is being conducted on the dyes that were used in natural dyeing in ancient times for dyeing wool and woollen products. Isiriq, which is used as a dye from the following plants in Uzbekistan, is widely used from the peel of pomegranate fruit, seeds of broom, walnut root, and onion peel.

RESULTS AND DISCUSSIONS

The Japanese safflower and amaranth plants, which are grown in large quantities in Uzbekistan, became the object of our investigation. Japanese safflower is collected from flower clusters and boiled in a watery environment with the help of caustic salts in a special pot in a special pot to obtain a bright yellow color. received. When this process is carried out in the presence of nickel, iron, lead, copper sulfate, sodium chloride, you can see the pictures in the photo below (pictures 1, 2). 12% humidity proof. (Figure 3)



Figure 1



Figure 2



Figure 3

Woolen fibers were washed, dried in ultraviolet rays, wetted and ironed. In the course of these tests, it was proved that natural dyes are firmly bound to wool fibers. Felt-felt was prepared on the basis of ready-dyed wool threads and wool threads dyed with various other dyes. (Figure 4)



Figure 4

On the basis of the practical work done, it was proved that the finished product is of good quality and popular when used as a dye. The technology of painting these products is an important field. However, despite the fact that artificial flowers are bright and beautiful, they are harmful for children and people with certain allergies. For this reason, scientific research is being conducted on the dyes used in ancient times to dye wool and woolen products using natural dyes.

During the experiments, we took dyes in different proportions from flower buds of Japanese safflower and amaranth plants (Table 1).

Among the dyes we received, Japanese safflower flower bud and ama plant with a closed ratio of 50:50 were distinguished by the large amount of dye obtained from flower clusters and the abundance of biological food in it, as well as the richness of micro and macro substances. And in our back paint, a form of rutin with high biopharmaceutical characteristics has been achieved.

Obtaining dyes in different proportions from flower buds of Japanese safflower and amaranth plant.

Table 1.

| T/N | Mass of flower clusters (g) | | Water volume (ml) | Dye solution (ml) | Solution pH |
|-----|-----------------------------|--------------------|-------------------|-------------------|-------------|
| | Amaranth | Japanese safflower | | | |
| 1 | 50 | 50 | 1500 | 1000 | 5,4 |
| 2 | 60 | 40 | 1500 | 1050 | 5,5 |
| 3 | 70 | 30 | 1500 | 1250 | 5,5 |
| 4 | 80 | 20 | 1500 | 1200 | 5,2 |
| 5 | 90 | 10 | 1500 | 1300 | 4,5 |

In this, rutin, which is difficult to dissolve in water, was reduced to a water-soluble physical substance. The conditions for obtaining a dispersed mixture from common solid rutin and amaranth-bearing plants were developed and rutin was brought to a bioactive state.

We determined the color change of the obtained red composite paint under the influence of chemical reagents. To do this, we added 2.5 ml of dye and kept it for 10 minutes and determined the color change in percentage, this information is given in table 2. (Figure 5).

Natural color test from Japanese safflower buds and amaranth flowers

Table 2.

| | The name of the reagent | Reagent volume (ml) | Natural dye (ml) | Color analysis | Color condition when storing for 10 minutes |
|---|---------------------------------|---------------------|------------------|----------------|---|
| 1 | Gasoline | 2,5 | 2.5 | did not change | 100% |
| 2 | Hydrogen peroxide | 2,5 | 2.5 | has changed | 60% |
| 3 | NaOH | 2.5 | 2.5 | has changed | 80% |
| 4 | Ca(OH) ₂ | 2.5 | 2.5 | has changed | 50% |
| 5 | NaCl | 2.5 | 2.5 | did not change | 100% |
| 6 | Na ₂ CO ₃ | 2.5 | 2.5 | did not change | 100% |

So composite paint can be used in a certain direction in the national economy.

CONCLUSION

For the first time, a composite colored extract was obtained from safflower buds and amaranth flowers, water was evaporated and a water-soluble composite containing rutin was obtained. That is, the obtained composite itself is proposed to be used as an angioprotector and as a ready-made raw material for routine preparations.



Figure 5.

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