Extraction Dyes From Two Natural Plants Olive Leaves and Beta vulgaris And The Uses In dyeing Textile.

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Abstract .The method of dyeing the wool and cotton yarn was used in this research. The yarns were first set up and then the dye solution was present and the threads were then immersed in the dyeing bath. After completion of the dyeing process, three tests were conducted to measure the color of the dyes towards the external factors. These tests are: First. Test the identity of the dye towards of light. Second. Test the identity of the dye towards the sweating. Third. Test the identity of the dye towards washing. Fourth. Test the identity of the dye towards acidic and alkaline.

The results showed that the natural and industrial cotton was the most reliable. The industrial and natural wool were the least proven. Thus, the plant dyes are not equally proven against all external factors, but we can say that they are permanent dyes. This term is called dyes that are permanent dyes towards the factors and conditions that are Find out when using it.

Keywords: Extraction, Plant Pigments, Olives, Beetroot.

Introduction

1. Dyeing:-

Is the coverage of fibers and threads or fabric coverage homogeneous color and this process is usually dipping the textile materials in a basin of pigment called (pigeon pigment), either in the Arabic language dye in the words of the Arabs change and the color of the dress if not color and removed from the case to blackness or reddish or yellowing and dyeing (dipping) is said to pigment dye collection. [1]

2. The importance of dyeing:-

The color is a factor of great importance in the production of products beautiful elegance increases the value of technical and increase the chances of marketing in the markets as the consumer is heavily influenced by the beautiful colors picturesque color in the first consideration when choosing products [2] the color was impressive, and goes to touch the piece and sense, In the feel of the product looks at other things of size and style[1,2].

[1] [2]
3. Methods of dyeing:-

The dye of textile materials is usually dipped in a water bath, which is often prepared in advance. It is called a bath. This bath contains dyes which vary in the degree of absorption and reversal of the wavelengths\textsuperscript{3}. When the textile materials are made up of several types of fibers we can also put several types of dyes suitable for types Dyed fibers The concentration of pigments in the dye bath can exceed 8% or less than 0.25% of the weight of the dyed material. When you want to get a dark color of dyeing you should increase the amount of pigment added. We can also lengthen the survival time of the dyed material in the pigmented bath Thus, the acquisition of dark colors is more expensive than the bright colors and bright The pigmented bath usually contains salts, acids and chemicals and help these materials help the pigments to gain more fiber to the bath and pigmented pigments also helps the migration of pigment from the bath pigment to the surface of fiber and help in Diffusion of pigment within the fiber. The pigmented pelvis should be moved from several minutes to several hours and the dye temperature varies also\textsuperscript{4}. Some bathrooms also vary, for example, some of the dye baths are cooled with ice, while other bathrooms include dyeing above the boiling point of the water inside a uniform body. Dyeing is a chemical process that includes the principles of migration, proliferation and then warming. The pigment must first migrate from the pigmented bath to the fiber surface where it is adsorbed on the fiber surfaces followed by the process of spreading the pigment from the fiber surfaces to the inside of the fiber and the process ends with the pigmentation of this pigment by different bonds, covalent or hydrogen or other forces so that it can feel the pigments within the fiber. The dyeing process can mediate any stage of manufacturing materials Histological selection of dyeing time is based on the balancing of many benefits and interests, it should be dyeing can occur during the manufacture of synthetic fiber This process is called the coloration of mass (Coloration Mass)\textsuperscript{5}.

Or dyeing fibers for natural fibers can be dyed textile materials are in the process of yarns and can then implement the dyeing of fabrics after fabrication or weaving or other methods.

Dyeing can be done after fabrication and then called (dyeing clothes)

- The dyeing apparatus depends on the form of textile material such as fibers, yarn, fabric, woven fabric, non-woven fabric and ready-made garments

- Pigment bath can circulate continuously within the dyeing device where the textile materials are fixed as in the case of dye yarns\textsuperscript{6}.

- An important logistical rule in the production of dyed materials must be taken into account, when we can get the same color effect in stages possible colors should be added to the fiber before (18 months) at least before reaching the final product ready for sale in which can be added directly to color Wear when you receive the order\textsuperscript{4, 6}.

Types of pigment:-

Human has used dyeing to decorate clothing and fabric for thousands of years. The first source of dye was nature, including the dyes extracted from animals and plants. The man was able, for about 150 years, to produce colors with different fixed and washable compositions and for different types of natural and artificial fibers which led to the diversity of dyes. Dyeing varied and varied according to the stages of production, from dyeing the fibers to dyeing the clothing. Acrylic fibers are dyed with basic dyes. When the polythene fibers and the proton fibers, such as wool and silk, are dyed with acid dyes, Cotton is dyed and dyed in several types of dyes such as direct dyes\textsuperscript{7}. 
Dyes:

Organic chemicals capable of absorbing and reversing light wavelength. Wavelengths within the electromagnetic field and the pigment is a colored material that has a part of the colored material. The pigment needs a liquid medium, often to be able to move to the colored material. The chromatography may need to improve color stability in the dyed fibers and produce color from the pigment as a result of absorption of some light waves. The chromatography may need to improve color stability in the dyed fibers and produce color from the pigment as a result of absorption of some light waves. The pigment needs a liquid medium, often to be able to move to the colored material. The chromato...
2- Synthetic pigment:

It is a pigment composed of organic molecules in the dye labs. This pigment is subjected to different adjustments, which eventually give a similar product to each pigment. The process of obtaining a matching color from one recipe to another requires high skill because the dye production contains many variables that affect the absorption of dyes in fiber.  

Table 1: Chemical classification and classification:

| Color stability of transportation materials | Color stability of to scratch | Color stability of washing | Color stability of light | The principle of dyeing | Type of dyed fiber | Classification of dye |
|---------------------------------------------|------------------------------|---------------------------|-------------------------|------------------------|--------------------|-----------------------|
| Acceptable                                  | good                         | Varying                   | good                    | It is strong and sharp | Nylon, Wool       | Acid dyes             |
| Weak                                        | Excellent                    | Excellent                 | Varying                 | Sharp                  | Acrylic, some kinds of poly-polyester | Alkaline dyes |
| Weak                                        | Excellent                    | Excellent                 | good                    | Chemical reaction with fiber | Wool fibers, wool | Interactive coloring |

The painter in their labs prefers to use the applied classification of dyes. The dyes of similar application are classified together regardless of their chemical structure. Thus, all dyes within the applied classification will dye a group of fibers.

For example, the dye contains one or more groups (N = N), and the anthraquinonoid pigment is characterized by two aromatic rings connected to each other by two groups. Carbonyl (CO) Each pigment part of these chemical classifications has a systematic name.

The dyes are sold as powders or sweeteners to avoid the problem of dyes dust which can whiten a large area and have complications on the health of the workers and can be sold in a water-based paste and have less dyes but are easier to dissolve in water and contain less dispersed elements.

Components of commercial dyes: [10]

Commercial dyes may contain other elements such as:

1- Salts or starch
2- moisturizing factor
3- dispersal factor
4- Impurities during the manufacturing process
5- Elements against change, which are substances with oil content
6- Structured solution
7- Factors conducive to stability
8- Paints

Selection of dyes: 

1. The form of tissue and the degree of chromatography required color dyeing fiber does not need high homogeneity because it will be mixed in subsequent processes.
2. The required stability properties
3. The adopted dyeing method
4. Total cost
5. Apparatus available
6. The color requested by the customer.

**Holder Color:**

![Chemical structure](image)

**Figure 1:** A rectangular retinal is a photon response (light) with an appropriate wavelength.

The chromophore is a part or group whose function is responsible for the color in the molecules in the color carrier because it gives a color advantage to the animation because it absorbs visible radiation or expands the use of the word (color) UV.

Color produces when a part of certain wavelengths is absorbed by visible light containing the color carrier by absorbing it. The electron is triggered from the ground state (stable) to the excited state of the biological molecules used to drop or pollute the energy of light \[13\].

**Types of natural pigments:**

The pigments are divided into three sections:

1. Plant dyes
2. Animal pigments
3. Metal pigments

**Study the conditions of dyeing fabrics:**

1. Concentration of the dye: After the use of the ideal conditions for the treatment of the material and then the treatment of samples to study the conditions appropriate for the process of dyeing has been studied variable dye concentration.

2. Processor temperature: A constant concentration of the cationic material was achieved with the pH setting at the best pH with a fixed time (30 min). The temperature variable was found to identify the best temperature for the cationic treatment and then to maintain the samples.
3- Add sodium chloride salt: -

The pH used in the best system achieves the highest dye retention rate and the extent to which the addition of sodium salt is studied.

4- the process of dyeing: -

With uniformity of all dyeing conditions under optimal conditions derived from the study, the best time for dyeing is determined.

5- Washing fabrics: -

After finishing the dyeing process, remove the excess color by using 2 g of soap at 60°C.

6- Selection of air permeability:

Air permeability was selected using Elester. The use of some dyes prepared in the dyeing processes:

Dyeing processes include the selection of appropriate and appropriate dyes for the tissues to be treated depending on the chemical composition of each.

The basis of the dyeing process is based on the transfer of the dye from the dye solution into the fabric, regardless of the dyeing method. The basic processes of dyeing include fiber formation, preparation of a solution and the proper dyeing process[14].

Finally, the process of dyeing involves adsorption of the dye on the fiber surface and then spreading it to the inside. The process of adsorption and dispersion depends on the nature of the fibers to be dyed. Fiber and animal fibers (such as wool and silk) containing amine and carboxylic groups are aliphatic and can be easily dyed with acidic and alkaline dyes. Cotton and cellulose fibers are semi-polarized because they contain hydroxyl groups[15], so they are relatively ineffective towards the dye process because they can form hydrogen bonds with most. Although hydrogen bonds facilitate adsorption, Vanderwals are more important than they are. Therefore, it is preferable to use pigments with a large surface area. As the surface area increases, the effect of Vanderwals increases and thus increases its stability. Fibers are usually dyed using dyes or dyes[16].

It is also possible to dye the precious types of these fibers with effective dyes, which contain effective groups that can form covalent bonds with the hydroxyl groups found in cotton. The cellulose estethyl fibers that lost the free hydroxyl groups can only be dyed using the non-soluble dyes in the water. Most of them are not polarized and the way they are dyed depends on their chemical form.

For example, acrylic fibers containing hydrogen atoms are acidic at the alpha site relative to the nitric groups so they can be dyed with all base dyes. Polypropylene and polypropylene fibers are usually dyed by diffused dyes. A large number of amine groups or groups of Hyraxes by adding a small amounts of monomers containing acidic or base groups to the monomers from which these fibers come from, so that the fiber can be dyed with acidic or alkaline dyes. By controlling the number of these aggregates in the polymer molecule[15].

The preparation of the fibers is different for the natural tissues at the plant and by the type of treatments that pass through their production. The preparation of the dyeing solution varies depending on the chemical arrangement of the dye molecule. It either dissolves directly with water such as acid dyes or is reduced to dissolved state such as pelvic pigments or grind into small minutes to turn into
solution stuck like scattered pigments and others. The dye is then used to enter the prepared fiber into the dyeing solution prepared with continuous stirring for a certain period of time at an appropriate temperature and sometimes under pressure (the largest absorption of the dye by the fabric varies according to both the dye and the fabric depending on the chemical composition of each). Also depending on the type of dye may require removal of the reduced factor and then oxidation and then washing and drying and so on [17]. After completion, the dye has been fixed on the final fabric. There are several factors that affect the various dyeing processes, including the concentration of pigment in dyeing solution where the color of the fabric is more severe when the concentration of dye in dyeing solution, on the contrary, the weight of the fabric affects the dyeing process. Another important factor is the temperature, the selection of the appropriate thermal grade for the dyeing process gives good results where the temperature of the thermoplastic is proportional to the concentration of the dye solution and vice versa with the weight of the fabric. In addition, the effect of the electrolyte used, such as the chlorine salt. For increases with the concentration of electrolyte to a certain extent in the basin are usually dyeing the dyeing process in an aqueous medium and dye correlation method of tissue have chemical bonds fact or by Adsorption [11,16].

There are four forces that may be associated with the molecules of different dyes tissue molecules or fiber appropriate to them:

1. Ionic forces.
2. Covalent bonds.
3. Hydrogen bonds.
4. Vandervals forces.
5. The type of strength or correlation depends on the chemical composition of the dye molecule and the tissue used [18].

Division of dyes: -

Paints are divided into the following:

1. (Organic metal) or (inorganic organic).
2. Organic compounds may be oxides and sometimes salts.
3. Aromatic organic compounds of specific molecular weight and include the largest part.

Pre-manufacturing dyes are sourced from natural raw materials produced by natural oil and coal source

Organic compounds → hydro carbonate petroleum and carbon. All organic dyes are aromatic and not aliphatic.

Characteristics of the compound used as a dye: -

1. Have a suitable color.
2. Resistant to various agents (oxidation, light, base solutions, solvents used in dry washing).
3. Has the ability to stabilize on the surface that is associated with the surface chemical bonds.

Factors Affecting the Dyeing Process: -

1. Concentrate the dye into the weight of the fabric.
2. Concentration of the dye in the solution.
3. The weight of the fabric. The greater the weight of the fabric to the weight of the dye was light color.
4. The temperature at which the greatest absorption occurs.
5. Accelerated materials for dyeing process

The most important causes of color: -

1. Chromophores: - It is responsible for the saturated color bearing N = O nitrose, C = O carbonyl, NO2 Nitrozo C = C.
2. The groups of Auoxochromos: - groups of color chromatography whose function is associated with the surface.

Evaluation of dyes:

A. Based on chemical composition (type of chromophore) composition of pigments.
   1. Nitro dyes.
   2. Nitrous pigments.
   3. Azo dyes.
   4. Xanthan pigments
   5. Anthraquinone dyes
   6. Fluorescent dyes.
   7. Indigo dyes

Based on usage:

1. Acid dyes: - Colored compounds characterized by containing acidic groups such as the group of sulfonic (-SO3H) or carboxylic (COOH), which make the molecular formula dissolved in water.
2. Basic dyes: - One of the most famous basic dyes when the dye molecule contains the groups of the secretary may contain one or more groups.
3. Effective dyes: - which are dyes containing aggregates that interact with the fibers directly and chemical bonds.
4. Direct dyes: A class that is directly related to fiber by hydrogen or physical forces.
5. Stained dyes: - These types of dyes are not found on the fabric only using a well-established materials that interact with the fabric to be able to dye it\(^1\).\(^9\)

Classification of Beetroot: -

Of the kingdom of flowering plants, two-falafel, of the rank of cloves, platypus and Ramornie, the common name is vulgaris. The scientific name is called Beta vulgaris. It is called beet, beetroot, beetroot or bari. It is a drastic root plant species that follows the placental tribe of the catfish\(^1\).\(^7\)

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**Figure 2:** Beta vulgaris
Plant Description:

The beet is divided into two types, the first of which is sugar beet, the second is used as a broth or in pickles, and sometimes it is brown. The red color in the beet is a product of betaine, which is equivalent to the acidity in the stomach and facilitates digestion\textsuperscript{[20]}. 

1. Ingredients: - Contains 90% water and 5% fiber and 2% ash and the rest sugar and metal materials such as potassium, calcium, phosphorus, iron and copper also contains sugars (glucose, sucrose and fructose). Fiber protein contains organic and amino acids in addition to vitamins and mineral salts.

2. The benefits: - The beet is a great benefit is used in the treatment of anemia as well as the source of folic acid and vitamins (B2, C, A) In addition to it rich in potassium and magnesium and diuretic, the betaine in the beet is working with other nutrients to reduce Homocysteine (homocysteine), which can be a nutrient to the blood vessels and thus contributes to reducing the risk of heart disease and stroke.

3. Uses: - It is advisable not to eat with other foods because it is difficult to digest something and there is a kind of pies made from soft boiled beets.

4. Food Information:

Each 100 g of beet, according to the US Department of Agriculture, contains the following nutritional information: calories 43, fats 0.17, carbohydrates 9.56 fiber 2.8, sugar 6.76, and proteins 1.61.

Beetroot is a drastic root plant of the placid shellfish. Beetroot of root vegetables rich in many nutrients is used in cooking and for free purposes and has many benefits and different varieties. It is cultivated in Europe, North America and Asia, the second source of sugar production. The world after sugarcane has two types: beets, beetroot, sugar, and shampoos. This type is eaten boiled or as a type of pickles, which is a red color because it contains beta-carotene, which is responsible for the balance of acidity in the stomach and facilitate digestion, sugar beet is white conical shape and draw from it sugar on several important nutrients to the body.

Olive leaves: -

Tree leaves are a semi-green tree that is very popular and highly dispersed. It has amazing medicinal properties and the active substance in the leaves called Olrobine and Olerobine is a substance known to be resistant to Viruses, bacteria and other harmful microorganisms. It also protects the important body layers and the urolabines. It is capable of killing the harmful germs that resist normal antiviral drugs. Characterized by olerbines make the leaves useful in the fight against respiratory diseases\textsuperscript{[21]}.

Figure 3: Olive tree
Methods of using olive paper there are several ways:-

First Method: - Grind the leaves of 1 kilo a leaf with a liter of boiled water or mineral water in the electric grinding apparatus then leave the mixture for two hours and then painted on a thick cloth or a filter or cotton and put the extract in a dark place and in a bottle is not transparent.

Second Method: - Boil the leaves of green or green olives, then wash the walls in the water for two hours and then leave until it cools and then half where we get a dark yellow swell.

Waxing method: - Drain the leaves after washing and then grind an electric ball or knock the stick until it becomes a fine powder can be screened on the net or cloth as the sieve flour get a powder can be mixed with any liquid.

Olive Classification:

Javanese olive and the scientific name of small-nucleic energy, kingdom plants and upper layer embryonic plants either section vascular plants or the Division of real estate papers.

His scientific name is oleajavanica

Duffle leaves the scientific name for his oleanerifolia

Raps please oleacapeusis

Olleaxiflora

Pink olive olearosea

Red veins Olearubrenaria, pinion, oleaborneensis. Study of the effect of different composition of the tissue on the intensity of Color:

(30%) PH=7 at boiling point for 60 min. The resulting color intensity was measured on a histological structure and recorded. The cotton and linen mixture was selected to complete this research. These mixtures during the threads after the process of drawing to get the fabrics are characterized as follows:

1. Increase elasticity, since linen fibers are flexible and flexible cotton fiber
2. Reduce the roughness of linen fibers,
3. Low price as linen fibers are cheap

Adjust pH for dyeing process:-

The beginning of the appropriate medium is the dye to achieve the highest chromatic rate. It was observed that with pH down, where PH = 4, the color increases up to 11.74. This may be due to the increase in the presence of positive charges that limit ionic ionization with the negative cellulose ores which cause the formation of bonds between the dye and the material. This behavior is reflected in the gradual decrease in color intensity with gradual increase in the alkalinity of the medium until it reaches K / S 11.18 at a decreasing rate of (4.85%). This results in the creation of extra negative positions on the material that increases its contrast with the dye[22].
Effect of salt on dyeing process:

Because the cellulose material contains the clusters of HER, XYL and CARBOXYL, it carries a negative charge when ionizing. The formula also contains some carboxylic and phenolic groups, which causes a negative charge. This creates an electrical repulsion between the material and the dye. The barrier between the adsorption of the dye molecules on the surface of the material Which requires the addition of sodium ions from Tyne added salt molecules at appropriate concentrations that allow the formation of a layer of positive sodium charges on the boundary between the outer surface of the material and the dye, which increases the adsorption of the dye inside the material. However, after the carbonate treatment of the material, it is likely that positive ammonium carbonate has performed the positive sodium ions function and replaced it so that we can hear about the addition of salt. Therefore, the study of the salt the hydride has coincided with different concentrations in the dyeing solution with practical solutions. The use of salt is not increased color intensity; the use of high concentrations of salt may cause the deposition of pigment molecules, thus impairing the intensity of color\(^{[19]}\).

Experiments:-

Method 1:

Model (1) Olive leaves: -

Olive leaves were collected and washed well and dried away from heat and direct sunlight and after the completion of drying was milled in a powder with very small minutes (fine powder). We weighed 25 grams of soft powder and worked on it in the saxolite apparatus, where we placed the powder inside folded filter paper and inserted it in the middle of the apparatus.

The 250 mL solvent (ethanol) was added after it was prepared at 75% concentration of the top of the device (condenser) to ensure its addition to all filter papers containing the model. The temperature is stabilized at 60 degrees to ensure that the solvent is not evaporated and boils at 70 ° C and we open the tap and connected the water to the condenser to ensure the condenser cooling in which the solvent vapor is heated to minimize the loss. After 15 hours of operation of the device was withdrawn from outside the device and moved the device to the rotary evaporator and at a temperature of 60 to ensure the vaporization of the model and get a substance dense textures after the process of dyeing.

Textile dyeing (cotton, natural wool, industrial wool and industrial fabric), as well as pieces of fabrics containing a percentage of polyester (the fabrics were washed and dried with a water solution to increase the pigment), A weak acid solution of pH = 5, a weak base solution of PH = 9 and a saline solution for sodium nitrate, distilled water and normal water were prepared. After making sure that the dye on the fabric is dry, each of these solutions is applied to the fabric of the dyed model to determine the extent of its effect in the passing medium and to determine its stability.

Model (2) Beetroot: -

Beetroot fruit was collected, washed and dried away from heat and direct sunlight and after the completion of drying was milled in powder form with very small minutes (fine powder). We weighed 25 grams of soft powder and worked on it in the saxolite apparatus, where we placed the powder inside folded filter paper and inserted it in the middle of the apparatus.

The 250 mL solvent (ethanol) was added after it was prepared at 75% concentration of the top of the device (condenser) to ensure its addition to all filter papers containing the model. The temperature is stabilized at 60 degrees to ensure that the solvent is not evaporated and boils at 70 ° C and we open the
tap and connected the water to the condenser to ensure that the condenser is heated with steam to minimize its loss.

After 15 hours of operation the device was pulled out of the device and we moved the rotary evaporator at 60 degrees to ensure that the form evaporated and get a material dense texture after the process of dyeing. Textile dyeing (cotton, natural wool, industrial wool and industrial fabric), as well as pieces of fabrics containing a percentage of polyester (the fabrics were washed and dried with a water solution to increase the pigment).

A weak acid solution of pH = 5, a weak base solution of PH = 9 and a water solution for sodium nitrate, distilled water and normal water. After making sure that the dye on the fabric is dry, each of these solutions is applied to the fabric or the dyed model to determine the extent of its effect in the medium passing through it and to determine its stability.

**Method 2:**

**Model (1) olive leaves**

Olive leaves were collected and washed well and dried away from heat and direct sunlight and after the completion of drying and then grinding in a powder with very small minutes (powder fine). Weighed 25 g of powder and put it in a 500 ml baker. The ethane was added with a concentration of 75% and 200 ml.

The baker was kept in a dark place away from light and the model was fermented for 40 hours. Transfer the solution to the mixture mixing solutions for 20 hours intermittently. After the completion of the process of shaking in the device has been filtered from the minutes not dissolved by a piece of gauze strapped on the surface of the Baker body (solution and tensile) to ensure that not pass through any impurities and non-dissoluble fiber. Transfer the stench (the product of the filtration process) to the device (rotary evaporator) for the purpose of obtaining a dense extract of the dye and evaporation of the solvent and get rid of it taken extract and tested on the tissues.

**Model (2) Beetroot:**

The fruit of the beetroot was collected and washed well and dried away from heat and direct sunlight and after the full drying and then grinded in a smooth, small minute. Weighed 25 grams of powder and put in the Baker size of 500 ml and was added to the solvent ethanol at a concentration of 75% also the size of 200 ml. The baker was kept in a dark place away from light and the model was fermented for 40 hours.

Transfer the solution to the mixture mixing solutions for a period of twenty hours intermittent. After the completion of the process of shaking in the device has been filtered from the minutes not dissolved by a piece of gauze strapped on the surface of the Baker body (solution and tensile) to ensure that not pass through any impurities and non-dissoluble fiber. Transfer the stink to the rotary evaporator device for the purpose of obtaining a dense extract of the dye and evaporation of the solvent and disposal after taking the extract and tested on the tissues.

**The method of work:**

The dyeing process was done in two days. During the first day, the wool was prepared in the form of a number of paralyses. The weight of the single shell was not more than 25 g and was lightly attached when preparing it. The wool yarn was then washed to make sure that it was free of fat and dirt by immersing it in water and then dried and fixed. 25 g of alum and 30 g of turmeric butter to 18
liters of soft boiled water and then put the wet wool. After that, the heating process was gradual for one hour with continuous stirring and we took out the yarn to get rid of the excess moisture by rolling a piece of cloth. Draw the dye and then soak for a full night and in the second day we came to the dyeing solution by boiling the water in which the plant material was soaked for an hour. The liquid was then filtered and warm water was added until 18 liters of liquid (dye bath).

Then add the wool fixer, then put on the fire to boil for an hour with continuous stirring, then wash and dried. Wool with a light alkaline cleaner and rinse thoroughly.

**Figure 4:** Rotary evaporator

**Figure 5:** Rotary evaporator
Test for the determination of pigmentation:

Some important things in the dyeing process are to know how resistant the conditions will be. There are methods and devices to help test the extent of the evidence, but these devices are not available, and was resorted to other methods, as in exporters \cite{11, 12}.

1- Test the identity of the dye towards the light: taken the dyed fabric and put one in a box and the other in a place that displays the largest amount of light (sunlight), taking into account the
position behind the window for a week and compared the two eyes to observe the extent of the dye to the direction of light.

2- Test the identity of the dye direction of sweat: taken two samples of the dyed fabric and immersed one in vinegar for a minute and has been used because it is close to the human sweating in terms of chemical composition, both of which contain acetic acid and after rinsed and dried and compared with the other sample that did not submerge vinegar To observe the extent to which the dye is oriented towards sweating.

3- Test the identity of the dye towards washing: Two samples were taken from the dyed fabric and washed the first sample with the water and high alkaline soap and rinsed and dried and compared with the sample not washed with soap to observe the extent of the determination of the dye towards washing.

4- Test the color of the direction of acid and basic solutions, taking 3 models I put in the basic solution PH = 8 and the second by acid PH = 5 for 10 minutes rinsed and dried and compared with the model for comparison.

Results and Discussion:

After testing the three tinctures, the results were as follows:

Figure [1] the dye test against the light shows that the dyes of the olive leaves are fixed in which the direction of light has not changed. The beet has changed slightly. The test of the dye against washing in Figure[2], shows that the leaves of the olive leaves are more stable than the beet and the test of the dyes to the wash orientation as in Figure[3]. The leaves of the olives were also more stable than the beet. The dye is the direction of the acidic and basic solutions as well as the olive leaves are more stable than the beet in Figure[4]. The reason that the olive dye did not affect significantly in the previous tests, the reverse of the beet, which had a significant change.

The natural and synthetic cotton and natural and synthetic wool are fibers that have the ability to easily absorb dyes. In addition, their chemical composition makes them chemically compatible with most types of pigments. They contain small pores that open up and absorb the pigment into the filament making them rich in color. The dyeing method used in this study provides good absorption and adequate penetration of pigment, all of which makes the dyeing process mature.

Figure 8: Painted models
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