

# AN IDEAL STRATEGY OF USING NELUMBO NUCIFERA FOR MOISTURIZING SERUM

[1] M.Abitha\*

[1] Department of biotechnology,

Dhanalakshmi srinivasan Institute of research and technology, siruvachur, perambalur.

[1] habeishu08776@gmail.com

**Abstract**— *The Nelumbo Nucifera, also known as the Padma, sacred lotus, or Indian lotus belongs to the family Nelumbonaceae. It naturally contains fatty acid (linoleic acid) which helps keep the skin moisturized and nourished. The hydrosol obtained by the distillation process, from the entire flower ( petals, plumule, and seed) combined with glycerin to form the serum, glycerin enhances the desired texture of the serum. some preservative is used to increase the shelf life. This serum is applicable for both males and females and children too. It gives glow as well as hydrated skin and this serum has fascinating odor. The organoleptic test is taken to analyze the texture, odor, color, whereas the pH scale is used to determine the acidic nature of the serum and the rancidity test is used to determine how long it would exist without spoilage, solubility test is taken for analyzing the dissolution and Specific gravity test is taken to analyze the density of the serum.*

**Index Terms**— *Nelumbo Nucifera, serum, glycerine, moisturizer.*

## I. INTRODUCTION

The Nelumbo Nucifera is an aquatic perennial plant, native to South Asia and Australia. It is considered to the holy flower and it is a national flower of India. Lotus flower contains 30 petals and it is cultivated in watery gardens. It needs at least 75 degrees F to grow, and it does not bloom in Cold of climate. It grows well in stagnant ponds. The lotus flower has many medicinal values, it helps to secrete the luteinizing hormone during the menstrual cycle[1]. Meanwhile, it has high benefits for skin and hair. It increases the melanocyte count in the skin[2].

Scientific name: *Nelumbo nucifera*

Kingdom: Plantae

Family: *Nelumbonaceae*

Order: proteomes

Other names: Indian lotus, Padma.

This lotus flower consists of palmitic acid methyl ester predominants, linoleic acid methyl ester, palmitic acid methyl ester, and linoleic acid methyl ester, and the plumule consists of palmitic acid, linoleic acid, and oleic acid[3].

## II. MATERIALS AND METHOD

Take 30 ml of lotus hydrosol ( which is pre-prepared by distillation process) in a beaker and mix it with 10 ml of glycerin. It gives the texture to the serum, moreover, it act as moisturizer to dry skin. it is a colorless and odorless solvent. Then add 0.4ml of preservative( a mixture of sodium benzoate and potassium sorbate). It is used to increase the shelf life. The prepared the serum is shown in fig.1



Fig.1

## III. QUALITATIVE ANALYSIS

### 1) pH:

pH is used to determining the nature of the solution which is either acidic or basic. If pH is greater than 7 then it is alkaline. If it is less than 7 it is acidic. Acidic pH is necessary for cosmetic products [4].

### 2) Rancidity

Rancidity testing is the process of determining the oxidation level in the given sample. If the serum goes rancid, its effectiveness is curtailed. Rancidity testing is an essential aspect of specifying the shelf life of the product [5,6].

### 3) Organoleptic Assay

This assay is also known as sensory analysis[7].

### 4) Aroma:

The aroma influences the quality of the product. It gives a pleasant Lotus odor that attracts to use.

### 5) Texture:

This serum has watery nature and its satisfactory texture is obtained by the addition of glycerine.

### 6) Color:

It is a colorless and water like a serum.

### Appearance:

This serum is transparent.

### 7) Water solubility:

Take 2-3 drops of the sample in a test tube and add approximately 6 drops of water in it. Then, Shake the tube. A soluble sample will give rise to a homogeneous solution with water, while the insoluble sample will remain in a separate phase. The sample that is soluble in water may be a polar compound[8,9].

### 8) Specific gravity test

A specific gravity test is used to determine the density or weight of a liquid as compared to the density of an equal volume of water at a specified temperature. If the given liquid has SG lower than 1 gram/ml, will float on water. If SG higher than 1 gram/ml, will sink [10].

#### IV. RESULT AND DISCUSSION

The results for the organoleptic test, pH test, solubility test, rancidity test, and specific gravity test is given in the table.1

This serum is highly rich in linoleic acid, which keeps the skin always hydrated and nourished. It is majorly involved in maintaining sebum production and skin balancing. Glycerin works effectively on dry skin and helps to maintain the texture of the skin. In oily skin type, it is useful in preventing acne, Blackheads, etc.. lotus can be easily available in Asian countries, but its benefits through the skin are not much recognized. It enhances the sebum production, this serum helps to keep our skin young. This serum is aciure. So, it maintains the pH level of the skin. This serum contains the preservatives, so it can be used for 6 months and it should be stored in plastic or glass bottle (with minute opening head ) kept either refrigerator or in dark place.

Serial Number	Analysis	Results
1	pH	5-5.5 at 25°C
2	Rancidity	It should last about 3 months.
3	Aroma	It has pleasant odor
4	Texture	Its texture is similar as water.
5	Color	It is a colorless liquid.
6	Water solubility	It is soluble in any proportion of water.
7	Specific gravity	1.05-1.20 at 25°C

Table 1. Analysis of serum from Nelumbo Nucifera.

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