



DATE SEED INFUSED EYESHADOW: FORMULATION AND ITS EVALUATION

Dr.N.TAMILSELVAN^{1*}, HIBA SHERIN², NAFEESEATHUL THASNIYA KB³, NAFILA THESNI C⁴,
RINSHA SHABNAM MI⁵, SHARMILA NP⁶

¹Associate Professor & Head of the Department of Pharmaceutics, ²³⁴⁵⁶Department of Pharmaceutics,

Nehru College of Pharmacy, Pampady, Thrissur

ABSTRACT

Any material intended for application to the human body or any portion of it, by means of rubbing, pouring, sprinkling, spraying, injecting, or any other method, with the intention of enhancing, improving, cleansing, or altering appearance, is referred to as "cosmetics". In the last several years, there has been a rise in the use of natural and sustainable ingredients in cosmetic formulations. Date seeds are a by-product of processing date fruit, and interest in their potential health and cosmetic uses has been piqued by their antioxidant, vitamin, and mineral content. The aim was to develop an eyeshadow that had a silky texture, vibrant colour payoff, and health benefits. By varying the concentrations of jojoba oil, arrowroot powder, and zinc stearate, we produced 12 distinct formulations. A series of evaluation tests, such as fineness, drop test, fall out, colour payoff, spreadability, irritancy, and organoleptic evaluation, are next used to the generated compositions. It was found that the formulas F5, F6, F7, and F8 had a high spreadability, strong colour payoff, a lovely texture, and a reasonable pH. The resultant mixture, which has the nutritional advantages of date seeds such as their ability to protect skin from UV rays, moisturize, nourish, and soothing effect can be used as an eyeshadow.

Key words:

Date seed, Colour payoff, Fallout

INTRODUCTION

The winds of social change are blowing strongly in the 21st century, affecting cosmetic application everywhere in the world. The word "cosmetic" comes from the Greek word "kosmetikos," which meaning "to adorn." Preparation used for this purpose is called a cosmetic. Any item meant to be rubbed, poured, sprinkled, sprayed, injected into, or applied in any other way to the human body or any portion of it in order to clean, beautify, enhance attractiveness, or change appearance is referred to as "cosmetics."

HERBAL COSMETICS

Herbal cosmetics are preparations made with phytochemicals derived from various plant sources that impact skin function and supply essential nutrients for maintaining healthy skin. Herbal cosmetics are made from natural herbs and materials that are utilized in cosmetic preparations for their fragrant qualities. The widespread perception that cosmetics containing chemicals are bad for the skin has led to a desire for natural products and natural extracts in the formulation of cosmetics, which has been sparked by herbal products.

EYE MAKEUP

Women continued to need to wear eye makeup every day, regardless of kingdoms or historical times. In addition to serving as windows into the human spirit, eyes are an effective means of communication. A pair of brilliant eyes is a symbol of attractiveness and grace. Eye makeup has been a significant tool for emphasizing the eyes for generations. Various colors, fashions, and trends have been employed to adorn the eyes throughout history. For generations, kohl, or black pigment, has been used to draw attention to the lashes, eyebrows, and eyelids.

EYESHADOWS

Eyeshadows are sold in stores to call attention to the color or look of the eyes by giving them more depth and dimension as well as making them appear larger and more appealing. They are intended for use on the eyelids and beneath the eyebrows.



There are several forms of traditional eyeshadows, such as liquids, creams, and powders. Natural and sustainable ingredients have become more and more common in cosmetic formulae in recent years.

Date seeds, a byproduct of manufacturing date fruit, are high in vitamins, minerals, and antioxidants and have sparked interest due to potential medical and cosmetic applications.

Herbal eyeshadow should have the following ideal qualities:

- It should not be irritating or harmful.
- Easy to use and reasonably priced.
- Spreadability is simple.
- Easily slide over the lid.
- Avoid settling immediately onto the skin.

Types of eyeshadow

1. Cream and gel eyeshadow.
2. Eyeshadow stick.
3. Powder eyeshadow.

List of herbal eyeshadows available in market

1. Coffee bean: this vegan-friendly, all-natural eyeshadow contains coffee beans.
2. Just Herbs herbal eyeshadow (alcohol extract included)
3. Eyeshadow by Lotus Herbals (which includes lotus extract)
4. Eyeshadow by ILIA Beauty (honey suckle flower extract)
5. The eyeshadow from RMS Beauty, which includes organic tea extract
6. Well People eyeshadow (olive oil, rice starch, grape seed oil, and jojoba seed oil)

12 formulations of eyeshadow is prepared from 4 varieties of date seed i.e, Ajwa, Medjool, Sukkari, and Khalas varieties.



Ajwa



Medjool



Sukkari



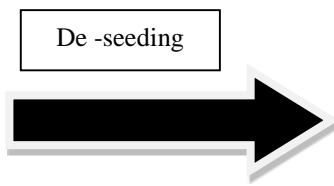
Khalas

METHODOLOGY

1. Making powdered date seed



Dates



Dates washing,
Soaking & Air drying



Grounded date seed powder



Ground date seed

2. Making the base for the eyeshadow

In a mortar and pestle, combine the necessary amount of arrow root powder, silica, zinc stearate, and kaolin clay.



Mix well to create a consistent base for eyeshadow.



To produce a fine powder, strain the mixture.



3. Formulation of date seed infused eyeshadow

Take the required quantity of eyeshadow base in a mortar & pestle.



Add the calculated amount of dateseed powder to it .



Mix thoroughly to get a uniform mixture.



Add mica powder for shimmer & shiny appearance to the eyeshadow & again mix well.



Finally add tochopherol & jojoba oil to the mixture and mix thoroughly until to get a uniform mixture.



Transfer the mixture into the eyeshadow palette & press it by using some pressure to get a pressed powder eyeshadow.



Composition table

Ingredients	F1 (1g)	F2 (1g)	F3 (1g)	F4 (1g)	F5 (1g)	F6 (1g)	F7 (1g)	F8 (1g)	F9 (1g)	F10 (1g)	F11 (1g)	F12 (1g)
Date seed powder												
Ajwa	0.25g	---	---	---	0.25g	---	---	---	0.25g	---	---	---
Medjool	---	0.25g	---	---	---	0.25g	---	---	---	0.25g	---	---
Khalas	---	---	0.25g	---	---	---	0.25g	---	---	---	0.25g	---
Sukkari	---	---	---	0.25g	---	---	---	0.25g	---	---	---	0.25g
Jajoba oil	0.05 ml	0.05 ml	0.05 ml	0.05 ml	0.01 ml	0.1 ml	0.1ml	0.1 ml	0.15 ml	0.15 ml	0.15 ml	0.15 ml
Arrow root	0.25g	0.25g	0.25g	0.25g	0.35g	0.35g	0.35g	0.35g	0.45g	0.45g	0.45g	0.45g
Zinc stearate	0.045g	0.045g	0.045g	0.045g	0.075g	0.075g	0.075g	0.075g	0.105g	0.105g	0.105g	0.105g
Mca	0.1g	0.1g	0.1g	0.1g	0.1g	0.1g	0.1g	0.1g	0.1g	0.1g	0.1g	0.1g
Toco pherol	0.01 ml	0.01 ml	0.01 ml	0.01 ml	0.01 ml	0.01 ml	0.01 ml	0.01 ml	0.01 ml	0.01 ml	0.01 ml	0.01 ml
Kadlin clay	0.2g	0.2g	0.2g	0.2g	0.2g	0.2g	0.2g	0.2g	0.2g	0.2g	0.2g	0.2g
Silica	0.15g	0.15g	0.15g	0.15g	0.15g	0.15g	0.15g	0.15g	0.15g	0.15g	0.15g	0.15g

EVALUATION TESTS

1. Determination of physical parameters: Organoleptic properties, such as color and texture, were investigated.

2. Calculating pH: The definition of pH is the decimal logarithm of the reciprocal of the hydrogen ion activity, or H^+ , in a solution. The PH of various formulations was measured using a digital pH meter. One gram of eyeshadow was put into a 150 ml beaker. To this was added nine millilitres of recently boiled and cooled water. Ten minutes after giving it a vigorous shake to produce a full suspension, each sample's pH was determined with a pH meter.

The pH of the eyeshadow is between 5-7.

3. Determining Spreadability: A product's spreadability refers to how easily it can be distributed. It has to do with how firm a product is, and spreading ease is usually linked to a product's losing firmness. Check to see sure the eyeshadow applies evenly and without any patches.

4. Determination of irritancy: To determine whether compounds and mixes are capable of causing moderate skin irritation, an invitro, non-animal test called the Skin Irritation Test (SIT) is used. Certain cosmetics have the potential to irritate skin by penetrating the skin's outer layer and reaching the layers beneath, where they can have harmful effects on the skin's underlying cells. This then triggers an instant immunological reaction, which is usually exhibited by redness and itching where the product comes into contact with the skin.

Mark a square centimetre on the mitt's dorsal surface to test for irritability. After applying the eyeshadow to the designated area, the time was recorded. After ten minutes, irritability, redness, and itching were assessed and reported.

5. Colour payoff: Verify that the colour payoff, whether applied dry, wet, or with a primer, matches the intensity shown in the palette or swatch.

6. Drop test: A product is dropped a predetermined number of times in a "free fall" fashion from a predetermined height onto a level surface.

7. Fallout test: There should be very little fallout from high-quality eyeshadow. Before applying, remove any extra product from your brush by tapping it off, then observe how much product falls off as you apply.

8. Fineness test: A specified sieve (sieve no. 80) was filled with about 1g of each sample material. To wash it, slow steam from the tap was used, and then a fine stream from a wash bottle was used to remove any remaining debris that had gotten past the sieve. If the material was difficult to wet with water, a gentle stream of filtered denatured spirit should be used to begin the washing process. Then residue was carefully transferred to a tarred watch glass carefully and dried at 105 degree celcius for constant mass.

The formula, Material retained on defined sieve, percent by $=M1/M$, was used to determine the finess of the samples.

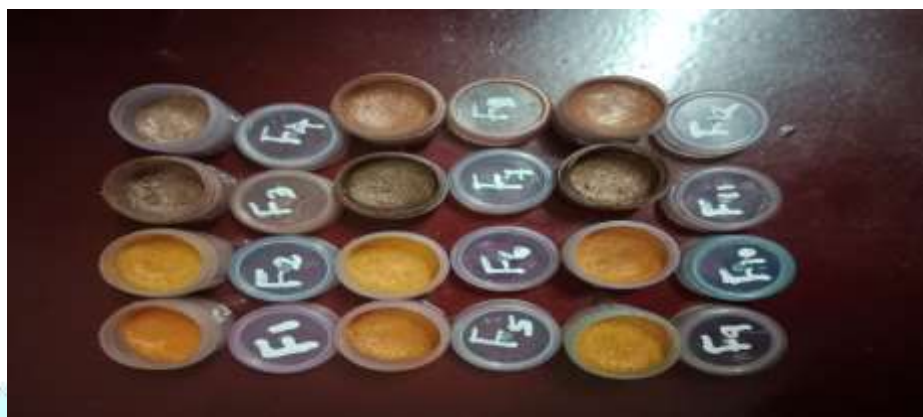
$M1$ =mass in grams of the residue kept on specified sieve

M = mass (in grams) of the sample used for the examination.

"At least 90% of the particles, measured in weight, pass through sieve number 80."

DISCUSSION

In the current study, four distinct date seed kinds were employed to create an eyeshadow infused with date seed. It was created with the hopes of creating an eyeshadow with a smooth texture, good colour payoff, and nutritional advantages. Here, we varied the concentrations of zinc stearate, arrowroot powder, and jojoba oil to create 12 different formulations. The created compositions are subsequently put through a battery of assessment tests, including fineness, drop test, fall out, colour payoff, spreadability, irritancy, and organoleptic evaluation.



Formulated date seed infused eyeshadow

SUMMARY AND CONCLUSION

Natural and sustainable ingredients are being used in cosmetic formulation at an increasing rate in recent years. The antioxidant, vitamin, and mineral content of date seeds a by-product of processing date fruit as well as its prospective health benefits and cosmetic uses have piqued interest. In order to maximize the best eyeshadow, a study was conducted using four distinct varieties of date seed. Zinc stearate, jojoba oil, and arrowroot powder were added in different proportions to create twelve distinct formulations of date seed-infused eyeshadow. The formulation was assessed using a range of criteria. It was observed that formulations F5, F6, F7, and F8 have good quality. Spreadability, color payoff, texture, fineness, low fallout, and a pH that is ideal. The created composition, which has nutritional benefits of date seeds such as skin protection action, moisturizing property, nourishing, calming, colouring, and protection against UV damage, can be used as an eyeshadow.

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