

# **BEETROOT LIP CARE :FORMULATION AND EVALUATION OF BEETROOT LIP BALM**

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## **ABSTRACT**

Cosmetics are substances used to enhance the appearance or fragrance of the human body. Herbal formulations, such as lip balms, lipsticks, creams, shampoos, and pastes, have gained attention due to their natural benefits and fewer side effects compared to synthetic products. Herbal cosmetics are beauty products that utilize natural ingredients to promote skin health, smoothening, and appearance enhancement. It is one of the cosmaceutical products. this formulation applied on lip to prevent drying and protect against adverse factors of the environment. it helps to protect the natural health and beauty of the lips. homogenous mixing method is used to produce the lip balm. various evaluation parameters were carried out. natural lip balm prepared from the ingredients like rose oil, vitamin E, petroleum jelly (base), beetroot juice (colouring agent), coconut oil (moisturizer). These products are preferred for their desirable physiological activities and relatively lower risk of adverse effects. Many commercial lip care products contain harmful heavy metals and preservatives, which can be ingested accidentally. These chemicals can pose health risks, making natural alternatives an attractive option. This study focuses on developing a natural lip balm using herbal ingredients, aiming to provide a safer and more effective alternative to conventional products. By exploring natural ingredients, we can create a lip balm that enhances beauty while minimizing potential harm.

## **INTRODUCTION**

Lip balm is a cosmetic product that both male and female use to keep their lips healthy. Lip balm, a wax-like substance, is used to moisturize and protect lips, especially against dryness, chapping, and environmental factors. Some types of lip balm include sunscreen to protect the lips from sunburn. Lip balms come in tubes and small pots with screw-on lids. Lip balm is often used in winter because the cold winter winds can dry out a person's lips so that they are cracked and hurting (this is called having chapped lips).

### **Types of lip balm**

1. Tinted lip balm

2. Medicated lip balm

3. Flavoured lip balm

4. SPF lip balm

5. Plumping lip balm

6. Hemp oil lip balm

## **MATERIAL AND METHOD**

### Plant-beetroot

Beetroot, is also known as garden beet, is a plant grown for its edible leaves and root. It's a popular vegetable with various uses. Chemical constituent: Beetroot contains a variety of chemical constituents, including betalains, phenolic compounds, carotenoids, vitamins, and minerals. It is used as a natural colorant, lowers blood pressure, rich in antioxidants.



Fig-Beetroot

### **LEAVES:**

Beetroot leaves, also known as beet greens, are a nutrient-rich, edible part of the beet plant, offering a range of health benefits and culinary uses, similar to other leafy greens like kale or spinach.

### **BARK**

They improve blood structure which in turn improves the health of the circulatory system, digestive system and large intestine. Beetroots contain betaine, a compound that works together with choline (a B-complex vitamin also found in beets), to prevent build up of homocysteine levels.

### **FLOWERS**

The garden beet is a biennial plant and is primarily grown for the thick fleshy taproot that forms during the first season. In the second season a tall, branched, leafy stem arises to bear clusters of minute green flowers that develop into brown corky fruits commonly called seed balls.

FRUIT:

Beets are rich in folate (vitamin B9) which helps cells grow and function. Folate plays a keyrole in controlling damage to blood vessels, which can reduce the risk of heart disease and stroke. Beets are naturally high in nitrates, which are turned into nitric oxide in the body.

Table no:01-Ingredients used in formulation of lip balm

Sr no.	Ingredients
1	Beetroot extract
2	Beeswax
3	Coconut oil
4	Honey
5	Petroleum Jelly
6	Vitamin E
7	Rose water

**Role of ingredients****1.Beetroot extract**

**Biological source:**Beet root is consist of fresh root of Beta vulgaris belong to family Chenopodiaceae.In lip balm formulation, beetroot juice or extract serves as a natural colorant, moisturizer, and source of antioxidants.

**2.Coconut oil**

**Biological source-**It is the oil expressed from the dried solid part of the endosperm of coconut,cocoas nucifera belonging to family Palmae .coconut oil play as crucial role as a moisturizing agent ,emollient ,and natural preservative.

**3.Beeswax**

**Biological source-**It is a product made from the honeycomb of the honeybee and other bees Belonging to family Apidae.It offers a moisturizer that protects your lips from becoming dry and developing cracks.

**4.Petroleum jelly**

In a beetroot lip balm petroleum jelly acts as an occlusive agent ,preventing moisture loss and creating a protective barrier on the lips. It works by sealing in natural lip moisture,which can help sooth chapped or dry lips and prevent further moisture loss

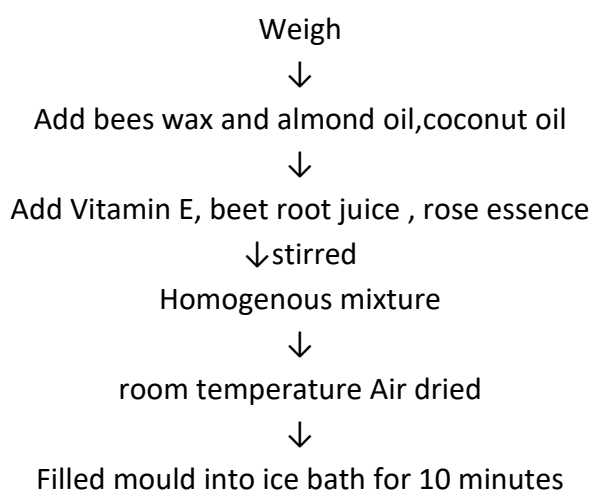
**5.Rose oil**

**Biological source-** It is obtained from the petals of different Rosa species especially Rosa centifolia and Rosa damascene mill belonging to family Rosaceae. It is used as a fragrance. It is used to create a more natural aroma.

## 6. Vitamin E capsule-

**Biological source-** It is a group of compounds found in wide variety of foods. It is used as a preservative and treating fine lines and wrinkles. In beetroot lip balm, vitamin E acts as a powerful antioxidant, moisturizing agent, and skin protector, helping to hydrate, soothe, and defend against environmental damage, contributing to healthy and supple lips.

## METHOD



## EVALUATION PARAMETERS

To assess the quality and effectiveness of a beetroot lipbalm, consider the following evaluation parameters:

### A. TEXTURE

The formula lip balm sample is placed on slide. Texture analysis of lip balm has been recorded by organoleptic evaluation.

### B. COLOUR

Lip balm colour analysis was evaluated. The three readings that contribute to the brightness, redness of the sample being examined.

### C. ODOUR

The pleasant odour is present due to the presence of rose oil.

## **D. GREASINESS**

To check the greasiness of the lip balm, 1 gm of the product was placed on filter paper and observed at room temperature for 24 hours to see how much oil it would release.

## **E. Melting point**

The melting point was measured using a melting point instrument. To do this, one end of a small glass tube was closed. The substance being tested was put into the open end of the tube until it reached a certain level. This tube was then placed in the melting point apparatus, and the temperature at which the substance melted was recorded.

## **F.PH**

One gram of preparation dispersed in 25 ml of distilled water. The PH preparation was determined using a PH meter pre-calibrated with standard buffer solutions (PH 4, 7 and 10). The measurement was performed at times.

## **G. Spreadability test**

Spreadability is determined using a glass slide. The sample is spread on the slides. The uniformity of the layer was visually observed.

For this test following criteria have been established.

G-Good

I-Moderate homogeneity

B-bad :uneven

## **H. Sensitive skin**

This is done by applying the product as a patch to the skin for 30 minutes and observing for a reaction of:

N-No reaction

R-Skin redness

I-Irritation or itching

## **I. Stability**

The lip balm was tested for stability over 30 days at different temperatures: room temperature, high temperature, and refrigerator temperature. Its appearance, texture, and spreadability were checked on days 7, 15, and 30.

# **RESULT**

## **1. Percentage yield**

Percentage yield =(Actual yield /Theoretical yield)\*100

The theoretical yield is 60 gm and the actual yield is 50 gm

Percentage yield =(50gm/60 gm)\*100=83.33%

## 2. Final Formulation table

Table no:02- Composition of lipbalm

Sr NO.	Ingredients	Quantity
1	Beetroot extract	50gm
2	Beeswax	5.5gm
3	Coconut oil	30ml
4	Honey	2gm
5	Petroleum jelly	3.5gm
6	Vitamin E capsule	3 capsule
7	Rose water	Q.S

## EVALUATION

Table no:03-Evaluation test result

Sr.no	Evaluation parameter	Observation
1.	Organoleptic properties	
1.1	Colour	Red
1.2	Odour	Pleasant
1.3	Appearance	Smooth
2	Melting point	63°C
3	Spreadability	Good
4	PH measurements	6.2
5	Skin irritation	No

## SUMMARY & DISCUSSION

In recent decades, the use of cosmetics by women has greatly increased. Natural cosmetics are generally safer than synthetic ones, which can cause allergic reactions and may be carcinogenic. Choosing the right cosmetics depends on understanding the ingredients, assessing individual body types, personal needs, customer perceptions, and comparing products. This study explores the formulation and evaluation of a natural lip balm using beetroot extract. The lip balm combines organic ingredients like beeswax, coconut oil, and vitamin E, to provide hydration and protection to the lips. The process of making beetroot lip balm is straightforward, involving melting and combining the ingredients before incorporating the beetroot extract for colour infusion. Then evaluation parameters are carried out. This study ensures that the lip balm not only imparts a pleasing tint but also effectively hydrates and protects the lips.

## **CONCLUSION**

Benefits-Provides natural lip care solution,Offers hydration and protection to the lips.The beetroot lip balm presents a natural and effective solution for lip care, combining the benefits of beetroot extract with other organic ingredients. Its formulation and evaluation parameters ensure a high-quality product that provides hydration, protection, and nourish to the lips.The formulation and evaluation of beetroot lip balm demonstrate its potential as a natural and effective solution for lip care. By combining beetroot extract with other organic ingredients like beeswax, coconut oil, and vitamin E oil, the lip balm provides hydration, protection, and nourishment to the lips. The elimination of synthetic dyes and emphasis on natural ingredients make it an appealing option for those seeking sustainable and effective lip care products. Overall, the beetroot lip balm offers a promising alternative to traditional lip care products, leveraging the benefits of natural ingredients to promote healthy and moisturized lips.

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