

**FORMULATION AND EVALUATION OF HERBAL LIPSTICK**

Vaishnavi Shelke\*, Prof. Poonam Bansode, Kanchan Mhaske, Kalyani Musale, Dnyaneshwari Nawade, Kiran Padghan and Gaurav Takote

India.



\*Corresponding Author: Vaishnavi Shelke

India.

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**ABSTRACT**

The safety and dependability of natural products have prompted the production of herbal-based products. Herbal cosmetics are gaining popular among today's women. Synthetic colouring compounds used in cosmetics have been discovered to have carcinogenic properties. The current study aimed to create and evaluate herbal lipsticks utilising natural colourants such as carrot, beets, turmeric, tomatoes, pomegranate, and cocoa. Herbal lipstick was made using a variety of natural materials including beeswax, carnauba wax, vanilla essence, castor oil, white soft paraffin, strawberry essence, vitamin E, and lemon juice. The prepared herbal lipstick was tested for colour, texture, pH, melting point, breaking point, surface anomalies, ageing, and perfume stability.

**KEYWORDS:** Herbal lipstick, evaluation, clour, beetroot, turmeric, carrot.

**INTRODUCTION**

According to the D & C act 1940 and rules 1945, the term "cosmetic" is derived from the Greek word "kasmtikos," which denotes the power, organisation, and skill in beautifying. In contrast, the term "herbal" is a symbol of safety, but "synthetic" has negative Cosmetics refers to any article intended to be sprayed, poured, rubbed, sprinkled on, introduced into, or applied to the human body or any part of it for ablution, glamorization, promoting enhancement, or reshaping the appearance. Herbal medicines represent the fastest growing segment to heal various ailments, and the demand for herbal cosmetics is increasing because they are skin friendly and have no side effects. Cosmetics are substances used to improve the appearance of the human body. Herbal cosmetics are preparations that combine cosmetics with active bioactive ingredients, nutraceuticals, and medications. The following are the herbal ingredients used to produce lipstick.

Lip colouring is an ancient technique dating back to prehistoric times. The use of cosmetic goods has expanded in recent years, as has the variety of colour tones, textures, and lustres available. This can be seen in the fact that lipstick is being marketed in hundreds of different colours to meet the growing demand. Many health-conscious individuals have recently focused their attention on lipstick. Lipsticks are frequently eaten away by the user, therefore health officials must conduct a microscopic examination of the chemicals that go into the lipstick. Due to the many bad effects of available synthetic preparations, the present effort was envisaged

by us to formulate a herbal lipstick with little or no side effects, which will be widely used by the women of our communities with great certainty and satisfaction. Lipsticks are the cosmetic product containing pigments, oils, waxes, and emollients that apply color, texture, and protection to the lipsticks. Many colors and types of lipsticks exist. As with most other types of makeup, lipsticks are typically but not exclusively worn by women. Some lipsticks are also used as lip balms, to add color along with hydration properties.

**IDEAL CHARACTERISTICS**

1. Ensure a shiny and smooth look, devoid of sweat.
2. The product should be non-irritant and non-toxic to the lips.
3. Avoid drying when storing.
4. Ensure the container is easy to operate.
5. The colour should be homogeneous in the application area.
6. Ensure it is clear of coarse particles.
7. It should not melt or harden within a suitable range of temperature.

**ADVANTAGES OF HERBAL LIPSTICK OVER SYNTHETIC LIPSTICKS**

The ingredient in the natural lipstick is all natural and is safe to use.

- Natural nutrients promote lip health.
- Minimal influence on the environment.
- They are non-toxic, highly lipophilic, anti-oxidants, anti-microbial, and anti-inflammatory.

- They are employed in Lip leucoderma. A wide choice of colours to choose from.
- Colourants come in a variety of tints, including purplish red, ruby red, beetroot purple, dark violet, pastel red, light red, rose red, deep magenta, dark purple, orange, and deep violet.
- These colours can be combined to create a variety of tints.
- Adding organic and inorganic acids and bases can alter colour hues.

#### DISADVANTAGE HERBAL LIPSTICK

- Herbal medications have slower effects than allopathic dosage forms. It also requires long-term therapy.
- It is challenging to conceal flavour and odour.
- The manufacturing process is time-consuming and complicated
- No pharmacopoeia specifies the technique or ingredients for herbal lipsticks.

#### HERBAL DRUGS

##### 1) BEES WAX

**Synonym:-** Paraffin-wax, Cranauba

**Biological source:-** It is a product created from honeycomb of honeybees and other bees.

**Family:-** Apidae

**Chemical constituents:-** Carbon (73.3%), hydrogen (13.2%), and oxygen (7.5%) make up the majority of the chemical composition.

**Uses:-** It contains a moisturiser that keeps your lips from becoming dry and forming cracks. It is also used in lip balms, lip glosses, and

##### BEES WAX



##### 2) CASTOR OIL

**Synonym:-** Linseed oil, Ricinus oil

**Biological source:-** It is a non-volatile fatty oil extracted from the seeds of the castor bean *Ricinus communis*.

**Family:-** Spurges

**Chemical constituents:-** It is mostly made up of fatty acids and neutral lipids.

**Uses:-** It's used as a laxative. It is applied as a moisturiser. It may help cure cracked lips. It increases hydration.

##### 3) OLIVE OIL

**Synonym: - Vegetable oil Biological source:-** It is a liquid fat derived from olives (the fruit of *Olea europaea*), a classic Mediterranean tree crop, and is manufactured by pressing entire olives and extracting oil.

**Family:-** Oleaceae

**Chemical constituents:-** It consists primarily of triacylglycerols and contains trace amounts of free fatty acids, glycerol, phosphatides, pigments, and sterols.

**Uses: -** It is utilised for optimal hydration. It provides treatment from cracked and chapped lips. It provides natural SPF protection. It helps to moisturise your lips. It is used to exfoliate dead skin from the lips and revitalise the skin. It nourishes your lips.

##### 4) COCONUT OIL

**Synonym:-** Copra oil, Coconut palm oil, *Cocos nucifera* oil

**Biological source:-** It is the oil derived from the dried solid endosperm of the coconut, *Cocos nucifera*.

**Family:-** Palmae contains the following fatty acids: caprylic acid C-8:0 (8%), capric acid C-10:0 (7%), lauric acid C-12:0 (49%), myristic acid C-14:0 (8%), palmitic acid C-16:0 (8%), stearic acid C-18:0 (2%), oleic acid C-18:1 (6%), and 2% C-18:2 linoleic acid.

**Uses:-** It protects the skin from ultraviolet rays. It alleviates inflammation. It is applied as a moisturiser.

##### 5) BEETROOT

**Synonym:** *Beta vulgaris rubra*, Chukandar

**Biological source:-** It consists of fresh root of *Beta vulgaris*.

**Family:-** Amaranthaceae

**Chemical constituents:-** It contains a variety of biologically active phytochemicals such as betalains, flavonoids, polyphenols, saponins, and inorganic nitrate, as well as a high concentration of minerals like potassium, sodium, phosphorus, calcium, magnesium, copper, iron, zinc.

**Uses:-** It is used as a colouring agent. It is utilised as a binder.

It provides a glossy sheen to the lips. It also has an emollient function on the lips. It also prevents lips from cracking.



Beetroot Powder

**6) VITAMIN E****Synonym:-** Tocopherol**Biological source:-** It is a category of chemicals found in a diverse range of foods..**Chemical constituents:-** It refers to a set of eight distinct compounds:  $\alpha$ -,  $\beta$ -,  $\gamma$ -, and  $\delta$ -tocopherols, and the corresponding four tocotrienols.**Uses:** - It is used to preserve and repair fine lines and wrinkles. It makes the lips softer.**7) ROSE OIL****Synonym:-** Rose otto, Attar of rose.**Biological source:-** It is derived from the petals of several *Rosa* species, including *Rosa centifolia* and *Rosa damascena* mill.**Family:-** Rosaceae**Chemical constituents:-** The most common chemical compounds present in rose oil are: citronellol, geraniol, nerol, linalool, phenyl ethyl alcohol, farnesol, stearoptene, limonene and eugenol, etc.**Uses:-** It is used as a fragrance. It is used to produce a more natural scent. It is used to create a nice smell.**8) CARROT****Synonym:-** *Daucus carota sativa*. **Biological source:-** *Daucus carota* L. **Family:-** Umbelliferae.**Chemical constituents:-** Gopalan et al. (1991) described the chemical components of carrot as moisture (86%), protein (0.9%), fat (0.2%), carbohydrate (10.6%), crude fibre (1.2%), total ash (1.1%), Ca (80 mg/100 g), Fe (2.2 mg/100 g), and p (53 mg/100 g), whereas Holland et al.**Use :-** The colored pigment (carrot juice) was added to the oil phase until a homogenous mixture was obtained.**CARROT POWDER****9) TURMERIC****Synonym:-** Haldi.**Biological Source:-** Turmeric is made from fresh, dried rhizomes of the *Curcuma longa* plant, which belongs to the Zingiberaceae family.**Chemical constituents:-** Turmeric contains about 5% curcumanoids as a coloring matter. The curcumanoid contains curcumin-I, curcumin-II, curcumin-III. Turmeric contains about 5% volatile oil. Their volatile oil contains sesquiterpenes, alcohol and ketone and monoterpene example, zingiberone, turmerone, arturmerone, alcohol-p-tolylmethyl, carbenol, cineole, borneole, etc. It also contains arabinose, fructose, glucose and starch grains. uses of turmeric.**USES:-** The colored pigment turmeric was added to the oil phase until a homogenous mixture was obtained.**TURMERIC POWDER****AIM AND OBJECTIVES****AIM: TO PREPARED HEARBAL LIPSTICK OBJECTIVE**

- To extract pigment from Red Spinach plant using the suitable SOLVANT.
- Prepare lipsticks using natural colouring agents.
- To evaluate the lipstick formulation.
- To beautify lips.
- To treat various lip diseases.
- Improve look.
- Enhances lip appearance and provides lip protection.

**CHEMICAL AND APPARATUS****Chemical:-** Beeswax, Olive Oil, Cocoa Butter, Cetyl Alcohol, Castor Oil, Glycerin.**Apparatus:-** Weighing Balance, Beaker Pipette, Stirrer, Lipstick Mold, Water Bath.



**WATER BATH**



**BEAKER**

**MATERIAL AND METHOD**

**METHOD 1**

**METHOD OF PREPARATION OF HERBAL LIPSTICK**

The herbal lipstick was created in accordance with the standard lipstick formulation process. In this recipe, bees wax is melted in a beaker over a water bath at 70°C. Similarly, castor oil, coconut oil, and olive oil were placed in another beaker and melted over a water bath at 70°C in descending order of melting point. The coloured pigment (beetroot) was added to the oil phase until a homogeneous mixture was formed. Then it was mixed into the wax phase at the same temperature. The mixture was chilled to 40 degrees Celsius before adding vitamin E and rose oil. The molten liquid was put into lipstick moulds. Once solidified, it was removed from the moulds and placed in a lipstick case.

**Formulation 1.**

Ingredients	Quantity	Importance of Ingredient
Bees wax	6gm	Glossy&Hardness
Castor oil	12 ml	Blending Agent
Olive oil	1 ml	Glossy
Coconut oil	1 ml	Hardness
Vitamin E	0.5 ml	Anti Oxidant
Beetroot Juice	6ml	Colouring Agent
Vanila Essence	q.s	Preservative
Glycerine	0.5	Norishing Agent
Cetyl alcohol	1.gm	Hardness
Cocoa Butter	1gm	Softening Agent



**Castor oil**



**Olive oil**



**Beetroot Juice**



**Vanila Essence**



**METHOD 2  
Formulation 2**

The herbal lipstick was created in accordance with the standard lipstick formulation process. In this composition, bees wax was melted in a beaker over a water bath at 70°C. Similarly, coconut oil and almond oil were melted over a water bath at 70°C, in decreasing order of melting point. The coloured pigment (carrot juice) was combined with the oil phase until a homogeneous mixture was achieved. The mixture was then chilled to 40 degrees Celsius and 1-2 drops of rose oil were added. The molten liquid was put into lipstick moulds. Once solidified, it was removed from the moulds and placed in the lipstick case.<sup>[2]</sup>

Ingredients	Quantity	Importance Of Ingredient
Bees wax	6gm	Glossy & Hardness
Coconut oil	1ml	Hardness
Castor oil	12ml	Blending Agent
Carrot juice	0.18gm	Colouring Agent
Vanilla Essence	q.s	Preservative
Vitamin E	0.5ml	Anti Oxidant
Cetyl Alcohol	1gm	Hardness
Cocoa Butter	1gm	Softening Agent



Carrot Juice



Cetyl Alcohol



Coconut oil



Cocoa Butter

**METHOD 3  
Formulation-3**

The herbal lipstick was created in accordance with the standard lipstick formulation process. In this composition, bees wax was melted in a beaker over a water bath at 70°C. Similarly, coconut oil and almond oil were melted over a water bath at 70°C, in decreasing order of melting point. The coloured pigment (turmeric) was introduced into the oil phase until a homogeneous mixture was achieved. The mixture was then chilled to 40 degrees Celsius and 1-2 drops of rose oil were added. The molten liquid was put into lipstick moulds. Once

solidified, it was removed from the moulds and placed in the lipstick case.<sup>2</sup>

Ingredients	Quantity	Importance of Ingredient
Bees wax	6gm	Glossy&Hardness
Coconut oil	1ml	Hardness
Cocoa Butter	1gm	Softening Agent
Turmeric Powder	6gm	Colouring Agent
rosewater	q.s	Moisturizing Agent
Vitamin E	0.5ml	Anti Oxidant

**METHOD 4**

**Formulation-4**

The herbal lipstick was created in accordance with the standard lipstick formulation process. In this composition, bees wax was melted in a beaker over a water bath at 70°C. Similarly, coconut oil and almond oil were melted over a water bath at 70°C, in decreasing order of melting point. The coloured pigment (turmeric) was introduced into the oil phase until a homogeneous mixture was achieved. The mixture was then chilled to 40 degrees Celsius and 1-2 drops of rose oil were added. The molten liquid was put into lipstick moulds. Once solidified, it was removed from the moulds and placed in the lipstick case.<sup>2</sup>

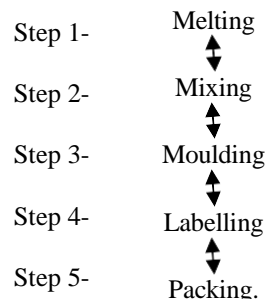
Ingredients	Quantity	Importance of Ingredient
Beet Root	6gm	Colouring Agent
Carrot Root	1ml	Colouring Agent
Turmeric	1gm	Colouring Agent
Coconut Oil	6gm	Hardness
Bees Wax	q.s	Glossy & Hardness
Vitamin E	0.5ml	Anti Oxidant
Cocoa Butter	1gm	Softening Agent
Glycerine	0.5	Nourishing Agent
Vanilla Essence	q.s	Preservative
Castor Oil	12ml	Blending Agent
Olive Oil	1ml	Glossy

**METHOD OF PREPARATION**

First, melt and blend the raw materials individually according on their melting points.

- Heat solvents, oils, and waxes separately in stainless steel or ceramic containers.
- Combine the solvent and liquid with the colour pigments.
- Mix the pigment mass into the hot wax.
- Pour the mixture into tubing moulds, cool, and remove the lipstick from the mould. Place it in the lipstick case.

**Steps involved is**



**Melting**



**Mixing**



**Moulding**



**EVALUATION OF LIPSTICK**

- Melting point:
- Microbial testing:
- Rancidity:
- Solubility test:

- PH parameters:
- Skin irritation test:

**Melting point:** It is determined with the capillary tube method. Open both ends of the glass capillary tubes. Introduce a sufficient amount of lipstick, about 10mm high, into each of 5 capillary tubes and allow the tubes to stand for the necessary period of time, with the temperature in the capillary tube being used as the melting point. Repeat the procedure three times with the remaining four capillary tubes, then calculate the result.



**Microbial testing:-** Microbial growth can be caused by contamination of raw ingredients, moulds, storage kettles, and lipstick containers. The test entails plating a known mass of the sample on two culture media that are specifically designed for the growth of bacteria and fungus, culturing them for a set period of time, and counting the visible colonies that form. The limit is 100 µo/gm.

**Rancidity:-** Rancidification is the breakdown of fats, oils, and other lipids through hydrolysis or oxidation. It causes an offensive stench, a foul taste, a sticky product, and, in rare cases, a colour change. Rancidity can be tested by measuring the peroxide number.

**Solubility test:** - Dissolve the lipstick in various solvents and test its solubility in each one.

**PH parameters:-** Use a PH metre to determine the pH of the lipstick.

**Skin irritation test:-** Apply lipstick on the skin for 10 minutes and observe.

## LITERATURE REVIEW

### 1) Meher Dipali, et. al.

Herbal cosmetics have growing demand in the world market and are an invaluable gift of nature. There are a wide range satisfy your beauty regime, adding herbal in cosmetics is very safe for skin. Human being have been herbs for different purpose like food medicine, beautifying with advancement of science and technology use of natural things including plant has been reduced

except for food, vegetarian takes plant and plant only. However there is resurgence of use of herbs both of drug and cosmetics.

### 2) Pooja Mishra, et.al.

Coloring lips in an ancient practice date back to prehistoric period. In present days the use of product has increased and choice of Shades of colour, texture, lustrous, have been changed and become wider. This can observed from the facts that lipstick is marketed in 100 shades of color to satisfy the demand for the women which will extensively use by the women of our communities with great surety and satisfaction.<sup>[16]</sup>

### 3) Rautela Sunil, et.al.

Cosmetics include skin-care creams, lotions, powders, perfumes, lipstick, fingernail, eye and facial makeup, permanent waves, colored contact lenses, hair colors, hair sprays and gels, deodorants, baby product, bath oils, bubble baths, bath salts, butters and many other type of product are in great demand in both developing and developed countries. The present investigation was done to formulate herbal lipstick, since lipstick are one of the key cosmetics to be used by the women. Due to various adverse effect of available synthetic preparation on the present work was conceived by us to formulate lipstick having minimal or side effect.<sup>[17]</sup>

### 4) Swati Deshmukh, et.al.

Now a day, in the whole world there is turn to return towards the use of herbal products and to adopt more natural way of life. People prefer natural food, herbal cosmetics, medicine and natural curing practice for healthy life, there is much craze for the vegetables products cultivated organic forming without using synthetic fertilizers and pesticides. The use of herbal cosmetics has been increased to many folds in personal care system and there is a great demand for the herbal cosmetics. Natural products have been used for folk medicine purposes throughout the world for thousands of years.<sup>[18]</sup>

## RESULT

### Stability test

The results of various physical parameters used to evaluate the developed beetroot herbal lipstick formulation are presented below. Physical parameters such as colour, appearance, skin application, consistency, texture, and irritation are indicated in the table below.

### Formulation- I

#### Physical evaluation

Physical parameter	Formulation I
Colour	Red
Appearance	Sticky
Application on skin	Smooth
Consistency	Good
Texture	Smooth
Irritation	No



**Result of stability testing show good stability even at different temperature**

Formulation	Initial Colour	I <sup>st</sup> Week	II <sup>nd</sup> Week
Formulation I	Red	Red	Red

#### Formulation- II

The table below displays the results of various physical parameters for evaluating the prepared Carrot root herbal lipstick formulation, including colour, appearance, application on skin, consistency, texture, and irritation.

#### Physical evaluation

Physical parameter	Formulation II
Colour	Orange
Appearance	Initially smooth and then being rough
Application on skin	Smooth
Consistency	Good
Texture	Smooth
Irritation	No

**Result of stability testing show good stability even at different temperature.**

Formulation	Initial Colour	I <sup>st</sup> Week	II <sup>nd</sup> Week
Formulation II	Orange	Orange	Dull

#### Formulation- III

The results of various physical parameters used to evaluate the manufactured turmeric herbal lipstick formulation are presented below. Physical parameters such as colour, appearance, skin application, consistency, texture, and irritation are indicated in the table below.

#### Physical evaluation

Physical parameter	Formulation III
Colour	Yellowish
Appearance	Non Sticky
Application on skin	Smooth
Consistency	Good
Texture	Smooth
Irritation	No

**Result of stability testing show good stability even at different temperature.**

Formulation	Initial Colour	I <sup>st</sup> Week	II <sup>nd</sup> Week
Formulation III	Yellowish	Yellowish	Dull

#### Formulation- IV

The results of numerous physical parameters used to evaluate the created combination of turmeric, beetroot, carrot root, and herbal lipstick formulation are provided below. Physical parameters such as colour, appearance, skin application, consistency, texture, and irritation are indicated in the table below.

#### Physical evaluation

Physical parameter	Formulation III
Colour	Pink
Appearance	Non Sticky
Application on skin	Smooth
Consistency	Good
Texture	Smooth
Irritation	No

**Result of stability testing show good stability even at different temperature**

Formulation	Initial Colour	I <sup>st</sup> Week	II <sup>nd</sup> Week
Formulation III	Pink	Pink	Dull

#### CONCLUSION

##### Formulation:- I

Different natural or herbal ingredients were used for the formulation of herbal lipstick, such as beeswax, castor oil, coconut oil, cetyl alcohol, olive oil, vitamin E, glycerine, coca butter, and vanilla essence. In formulation 1, beetroot extract obtained from beta vulgaris was used as a colouring pigment. The lipstick was then evaluated for various criteria, and it showed no side effects while exhibiting maximum local effect and good properties such as shining, spreading, and smoothness. It produces good results in stability investigations.

##### Formulation:- II

The current investigation concluded that natural ingredients such as carrot juice, castor oil, bees wax, coconut oil, vanilla essence, vitamin E, cetyl alcohol, and cocoa butter are useful in different lip problems and should provide a better curative effect in this formulation. However, because preservatives are not added sufficiently, these formulations spoil after a while. Additionally, these formulations require a long process time to melt the wax, and due to improper.

##### Formulation:- III

The current investigation concluded that natural ingredients such as turmeric powder, beeswax, coconut oil, rosewater, and vitamin E are useful in various lip problems and should provide a better curative effect. However, the quantity of coca butter in these formulations is low, causing all of the ingredients to not bind properly. Additionally, the quantity of vitamin E oil in these formulations is low, causing the formulation to oxidise.

##### Formulation:- IV

From above present investigation it was concluded that natural ingredients like turmeric powder, beetroot, carrot, beeswax, coconut oil, rose water, olive oil, vit E, this ingredients are useful in different lip problem it should be curative effect, in these formulation the the quantity of preservative is less and due to this, formulation is being spoil after few week.



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