

# Formulation and Evaluation of Herbal Lipstick by Using *Bixa Orellana* as Colouring Pigment

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## ABSTRACT

*Annatto* is an orange-red condiment and food coloring derived from the seeds of the achiote tree (*Bixa orellana*). It is often used to impart a yellow or orange color to foods, but sometimes also for its flavor and aroma. Its scent is described as "slightly peppery with a hint of nutmeg" and flavor as "slightly nutty, sweet and peppery". Herbal word is a symbol of safety in contrast to synthetic one which has adverse effects on human health. Herbal preparations like herbal tablets, herbal tonic, herbal paste, herbal creams, herbal shampoos and herbal lipstick etc have become more popular among the consumer. Herbal medicines represent the fastest growing segment to heal the various ailments. Colouring the skin particularly skin of face or lips is an ancient practice going back to prehistoric period. In present days the use of such products has increased and choice of shades of color, texture and luster have been changed and become wider. This can be observed from the fact that lipsticks are marketed in hundreds of shades of colours to satisfy the demand of women. The present investigation was done to formulate herbal lipstick, since lipsticks are one of the key cosmetics to be used by the women. Attempt was also made to evaluate the formulated herbal lipstick. Due to various adverse effects of available synthetic preparation the present work was conceived by us to formulate a herbal lipstick having minimal or no side effects.

**Keywords:** Herbal Cosmetics, Castor oil, Paraffin wax, Bixa (Annatto), Bees wax, Shikakai.

## INTRODUCTION

Cosmetics are substances used to enhance the appearance of the human body. Cosmetics include skin-care creams, lotions, powders, perfumes, lipsticks, fingernail and toe nail polish, eye and facial makeup, permanent waves, colored contact lenses, hair colors, hair sprays and gels, deodorants, baby products, bath oils, bubble baths, bath salts, butters and many other types of products are in great demand in both developing and developed countries<sup>1</sup>.

The word herbal is a symbol of safety in contrast to the synthetic one which has adverse effects on human health. Herbal preparations viz., herbal tablets, herbal tonics, herbal paste, herbal shampoo, herbal sindur, herbal contraceptives and herbal lipstick has become popular among the consumer herbal medicines represent the fastest growing segment to heal the various ailments. Possibly, herbal user desire to assume control over health care

needs. Perhaps the large in personal healthcare system is unpatable to many and they turn to herbal medicine due to increase side effects of available synthetic preparations<sup>2-3</sup>.

Herbal cosmetics have growing demand in the world market and are an invaluable gift of nature. There are a wide range of herbal cosmetics products to satisfy your beauty regime, adding herbal in cosmetic is very safe for skin. Human being have been using herbs for different purpose like food, medicine, beatifying with advancement of science & technology use of natural things including plant has been reduced except for food, vegetarian takes plant& plant only. However there is resurgence of use of herbs both as drug and cosmetics<sup>4</sup>.

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 colors textures, lustrous, have been changed and become wider. This can observed from the

facts that lipstick is marketed in hundreds of shades of colors to satisfy the demand for the women. Due to various adverse effects of available synthetic preparation the present work was conceived by us to formulate an herbal lipstick having minimal or no side effects which will extensively use by the women of our communities with great surety and satisfaction<sup>4</sup>. Herbal cosmetics are the preparations, which represent cosmetics associated with active bio-ingredients, nutraceuticals or pharmaceuticals. The herbs used in cosmetic preparation have varieties of properties like antioxidant, anti-inflammatory, antiseptic and antibacterial etc. These herbal products claim to have no side effects, commonly seen with products containing synthetic agents. The literature in Ayurveda, especially Charak Samhita, stated numerous medicinal plants in Varnya kashaya. The herbs like Chandan, Haldi, Khas, Nagkeshara, Manjistha, and Yastimadhu are used to obtain glowing complexion and Arusa, Amala, Bavchi, Guduchi, Chakmard are mentioned as Kustaharan<sup>4</sup>.

Botanical extracts that support the health, texture and integrity of skin and hair are widely used in commercial cosmetic formulations. Plant materials, from which these extracts are prepared, have a long history of traditional "cosmeceuticals" use, although the term itself is of recent origin. In most cases, these cosmetic applications are adequately supported by efficacy and safety data documented in scientific literature. Among the more popular functional natural ingredients, several antioxidants used in cosmetics are scientifically proven to offer additional benefits in supporting skin texture, appearance and tone. While in traditional cultures, plant materials were used in crushed or dried and powdered form, their incorporation into existing cosmetic formulations presents unique challenges<sup>4</sup>.

In recent time's lipsticks have been under the scanners of many health watchers. Lipsticks are often eaten away by the user and hence it is imperative that health regulators have a microscopic look at the ingredients that go in to the lipstick<sup>4</sup>.

#### ➤ **Characteristics of Lipsticks**

- 1) Lipsticks should essentially give good colour, apply easily and gives a very natural look.
- 2) It should be free from blemishes on the surface such as large air holes, sweating, blooming, laddering or

cracking, a smooth and shiny appearance.

- 3) It should make the lips soft.
- 4) A suitable degree of firmness during reasonable variations of climatic temperature, melting point range of lipsticks is kept between 50-60°C. So that it can withstand tropical temperature (60-70 °C) as well as be able to spread as fine film over lips at a temperature of (37±2 °C).
- 5) It should have high retention of color intensity without any change in shade.
- 6) The film must adhere firmly to the lips without being brittle and tacky, free from grittiness and be non-drying.
- 7) It should have a desirable degree of plasticity
- 8) It should be non-irritating to the skin of lips.
- 9) It should have a pleasant odour and flavor<sup>1-4</sup>.

### **MATERIALS & METHODS**

#### ➤ **Materials**

Castor oil, Paraffin wax, Bees wax, Bixa (Annotta), Shikakai ripe fruit powder, Lemon juice, Strawberry Essence and Rose Essence are the various materials which are used in a current investigation. Following method was adopted during the course of present investigation<sup>5-6</sup>.

#### ➤ **Selection of herbs**

The various herbs used in present formulation of herbal lipsticks were selected on the basis of literature survey<sup>6-8</sup>.

#### ➤ **Procurement and Authentication of herbs of plant materials**

The different herbs used in the formulation of herbal lipstick were collected from the local area of shahada and then it was get authenticated from Botanical Department of PSGVP Mandal's Arts, Commerce and Science college of shahada.

### **FORMULATION OF HERBAL LIPSTICK**

The herbal lipstick was formulated as per general method of normal lipstick formulation<sup>9-10</sup>. The ingredients used in the formulation of an herbal lipstick are:

- Castor oil
- Paraffin wax
- Bees wax
- Bixa (Annatto)

- Ripe fruit powder of Shikakai
- Lemon oil
- Strawberry essence
- Rose essence

All the ingredients were mixed in a definite ratio by melting paraffin wax and bees wax at a low flame and then moulded in a suitable mold (Moulding method) to formulate three formulations [F1 to F3].

### EVALUATION OF HERBAL LIPSTICK

It is very essential to maintain a uniform standard for herbal lipstick, keeping this view in mind the formulated lipstick was evaluated on the parameters such as melting point, breaking point, force of application, surface anomalies etc<sup>11-12</sup>.

#### 1) Melting point

Determination of melting point is important as it is an indication of the limit of safe storage. The melting point of formulated lipstick was determined by capillary tube method the capillary was filled, kept in the capillary apparatus and firstly observed the product was slowly-slowly melted. After sometimes was observed the product was completely melted. The above procedure was done in 3 times and the melting point ratio was observed in different-different formulation.

#### 2) Breaking point

Breaking point was done to determine the strength of lipstick. The lipstick was held horizontally in a socket ½ inch away from the edge of support. The weight was gradually increased by a specific value (10 gm) at specific interval of 30 second and weight at which breaks was considered as the breaking point.

#### 3) Force of application

It is test for comparative measurement of the force to be applied for application. A piece of coarse brown paper can be kept on a shadow graph balance and

lipstick can be applied at 45° angle to cover a 1 sq. inch area until fully covered. The pressure reading is an indication of force of application.

#### 4) Surface anomalies

This was studied by the surface defects, such as no formation crystals on surfaces, no contamination by moulds, fungi etc.

#### 5) Aging stability

The product was stored in 40°C for period of 1 hour. Various parameters such as bleeding, crystallization of on surface and ease of application were observed.

#### 6) Solubility test

The formulation herbal lipstick was dissolved in various solvents to observe the solubility.

#### 7) pH parameter

The pH of formulated herbal lipstick was determined using pH meter.

#### 8) Skin irritation test

It is carried out by applying product on the skin for 10 min.

#### 9) Perfume stability

The formulation herbal lipstick was tested after 30 days, to record the fragrance.

### RESULTS AND DISCUSSION

In last few decades there has been tremendous boost in use of cosmetics by women. However, the hazards cause by these chemicals has come into limelight very recently. The present work formulation and evaluation of herbal lipsticks was aimed to formulate a lipstick using herbal ingredients with a hope to minimize the side effects as produced by the available synthetic ones.

Hence, from present investigation it was concluded that this formulated herbal lipstick has better option to women with minimal side effects though a detailed clinical trials may be done to access the formulation for better efficacy. Results of evaluation tests are represented in a following table 2.

**Table 1: Ingredients with their prescribed quantities in the formulation of herbal lipsticks**

S. No.	Ingredients	Importance	Quantity (gram)		
			F1	F2	F3
1.	Castor oil	Blending agent	16	12	14
2.	Paraffin wax	Glossy & hardness	28	29	26
3.	Bees wax	Glossy & hardness	36	37	36
4.	Bixa (Annatto)	Colouring agent	05	07	07
5.	Ripe fruit powder of Shikakai	Surfactant	12	13	15
6.	Lemon oil	Antioxidant	1.5	15	2.0
7.	Strawberry essence	Flavouring agent	0.1	0.1	0.5
8.	Rose essence	Preservative	q.s.	q.s.	q.s.

**Table 2: Evaluation of Formulated Herbal Lipsticks**

S. No.	Evaluation Parameters	Inferences		
		F1	F2	F3
1	Colour	Saffron	Saffron	Saffron
2	pH	6.6	6.4	6.2
3	Skin Irritation Test	No	No	No
4	Melting Point	62-64°C	60-62°C	61-62°C
5	Breaking Point	25	23	22
6	Force of Application	Easy	Good	Good
7	Perfume Stability	+++	++	+++
8	Surface Anomalies	No Defect	No Defect	No Defect
9	Aging Satbility	Smooth	Smooth	Smooth
10	Solubility	Chloroform	Chloroform	Chloroform

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**CONCLUSION**

The formulation F1 was found to be the best and more stable among all the three herbal formulation of lipsticks as per the outcomes of evaluations tests.

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