



## **“RESEARCH ARTICLE FORMULATION OF HERBAL LIPSTICKS BY USING BEETROOT”**

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### **ABSTRACT :**

Lipstick serves as a cosmetic tool to add color to the lips, enhancing their appearance and providing protection from damaging UV rays and other harmful elements. Herbal lipstick, a variant of this cosmetic, incorporates natural pigments, oils, fragrances, preservatives, and colors to not only beautify but also safeguard the lips. It has become a staple in many women's handbags, offering options for moisturized, shiny, or smooth lips. The rising popularity of herbal lipstick can be attributed to its safety, as it avoids synthetic colorants and harmful chemicals present in traditional lip products. With a plethora of shades available in both liquid and stick forms, herbal lipstick caters to diverse preferences while minimizing adverse effects. Unlike its synthetic counterparts, herbal lipstick boasts minimal side effects, owing to its reliance on natural ingredients that promote lip health. Synthetic colorants, on the other hand, pose risks such as skin discoloration, lip cancer, and irritation with prolonged use. Allergic reactions, nausea, dermatitis, and lip dryness are among the potential adverse effects associated with conventional lipstick formulas. Consequently, there is a growing global demand for cosmetics enriched with herbal components due to their safety and efficacy. This review presents an overview of herbal lipstick, encompassing its benefits, lip anatomy, desired characteristics, formulation challenges, and evaluation methods.

keywords: Herbal lipstick, Natural coloring matter, Vanilla Essence, Bee wax, Almond oil, coconut oil.

### **1 INTRODUCTION:**

Cosmetics encompass any product intended to be sprayed, poured, rubbed, or sprinkled onto or introduced into the body for the purpose of cleansing, beautifying, promoting attractiveness, or altering appearance. They include substances used to alter the appearance or fragrance of the human body. Lipstick is among the most commonly used cosmetics, enhancing the beauty of lips as a staple of makeup routines. An ideal lipstick possesses compelling characteristics that appeal to consumers, including a suitable texture and antioxidant properties. Components such as bases, oils, emollients, and colorants contribute to the qualities of a superior lipstick. Texture, melting point, and hardness are primary characteristics modified by adjusting component ratios in the formulation. Colorants or pigments are crucial components determining the aesthetic value of lipstick. They can be derived from synthetic or natural sources. Synthetic colors, chemically manufactured, pose risks to human health upon consumption, potentially causing adverse effects like allergies, dermatitis, skin discoloration, and lip dryness. In extreme cases, they may even be carcinogenic or fatal. Consequently, the preference leans toward natural colorants in lipstick production, extracted from sources such as plants, insects, and algae.



The term "cosmetic" originates from the Greek word "cosmetics," which encompasses the notions of power, arrangement, and skill in decoration. Herbal cosmetics utilize one or more herbal ingredients to form their base. Phytochemicals, found in herbal cosmetics, play a vital role in influencing skin functions and providing essential nutrients for healthy, radiant skin or hair.

The demand for herbal cosmetics in the global market is on the rise, showcasing nature's invaluable offerings. There's a vast array of herbal cosmetic products available to cater to women's needs for enhancing their beauty. In contrast to synthetic alternatives, herbal cosmetics are deemed safer for human health. Natural colors, derived from sources such as plants, insects, and algae, offer diverse options for lipstick shades and types.

Moreover, medicated lipsticks are gaining traction due to their dual benefits of aesthetic enhancement and medicinal properties. Enriched with active medicinal ingredients, these lipsticks not only moisturize and prevent chapping but also safeguard against bacterial infections. This shift towards lip care products with medicinal properties mirrors the evolving preferences of consumers who seek both beauty and health benefits.

Furthermore, there's a rising inclination towards incorporating herbal ingredients in cosmeceuticals, including lip care products. Herbal cosmetics, also referred to as natural cosmetics, are favored for their ability to deliver holistic benefits for health and beauty. Consumers are increasingly mindful of the potential hazards associated with synthetic ingredients like lead, petrolatum, and phthalates commonly found in lip care products.

Synthetic ingredients can trigger lip irritations, dryness, and chapping, with prolonged exposure posing risks of more severe health issues such as allergies, asthma, and even cancer. This underscores the significance of avoiding products containing such ingredients and opting for safer alternatives like medicated lipsticks formulated with natural or herbal ingredients. Additionally, behaviors like lip licking or consuming food and beverages while wearing lipstick can exacerbate these concerns, emphasizing the necessity for safer formulations in lip care products. Top of Form

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## IDEAL CHARACTERISTICS:

*Natural Ingredients:* Herbal lipsticks are made primarily from natural ingredients derived from plants, herbs, and fruits. These ingredients often include oils like coconut, jojoba, or almond, as well as plant-based waxes like beeswax or candelilla wax.

*Chemical-Free:* Herbal lipsticks are typically free from harmful chemicals such as parabens, phthalates, and synthetic fragrances. This makes them a safer option for those with sensitive skin or allergies.

*Moisturizing:* Herbal lipsticks often contain moisturizing properties due to the presence of nourishing oils and butters. Ingredients like shea butter and cocoa butter help to keep lips hydrated and prevent them from drying out.

*Subtle Pigmentation:* While herbal lipsticks may not always provide the intense pigmentation of synthetic lipsticks, they often offer subtle and natural-looking shades. This can be appealing for those who prefer a more understated makeup look.

*Gentle on Lips:* The natural ingredients in herbal lipsticks are generally gentler on the lips compared to synthetic alternatives. They are less likely to cause irritation or dryness, making them suitable for everyday wear.

*Aromatherapeutic Benefits:* Some herbal lipsticks may incorporate essential oils for their aromatherapeutic benefits. These oils can provide a pleasant scent and may also offer additional skincare benefits.

*Environmentally Friendly:* Since herbal lipsticks rely on natural ingredients, they are often more environmentally friendly than traditional lipsticks that contain synthetic chemicals. Additionally, many brands that produce herbal lipsticks prioritize sustainable and eco-friendly practices in their manufacturing processes.

*Cruelty-Free:* Many herbal lipstick brands are committed to being cruelty-free, meaning they do not test their products on animals. This ethical stance is important to many consumers who prioritize animal welfare.

*Shorter Shelf Life:* Due to the absence of synthetic preservatives, herbal lipsticks may have a shorter shelf life compared to conventional lipsticks. It's important to check the expiration date and store them properly to maintain their quality.

*Variety of Finishes:* Herbal lipsticks come in a variety of finishes, including matte, satin, and glossy. Whether you prefer a bold matte look or a subtle sheen, there's likely an herbal lipstick option to suit your preferences.

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## ADVANTAGES OF HERBAL LIPSTICK

- 1) Different combination and shades can be obtained from these colours
- 2) By adding organic and inorganic acids and bases colour may be changed to different shades
- 3) The ingredient in the natural lipstick is all natural and is safe to use
- 4) They also contain natural nutrient that keep lips healthy
- 5) they have fewer or no aspect impacts
- 6) Extensive range of colour to choose from
- 7) Colorants has different originals shades of colour from purplish red, ruby red, beetroot purple, dark violet, pastel red, pale red, purplish red, rose red, deep magenta, dark purple, orange , deep violet.

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## ANATOMY OF LIPS:

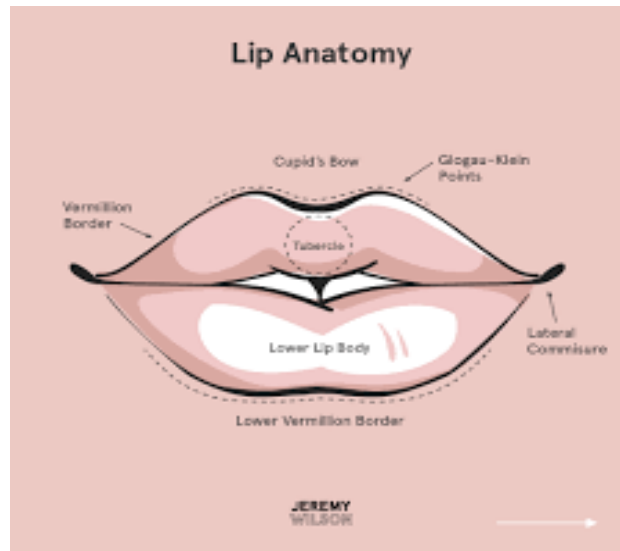
Lips are truly remarkable anatomical features, boasting intricate structures and a multitude of functions. They're not just crucial for fundamental activities like eating and speaking but also for non-verbal communication and aesthetics. Your detailed explanation covers everything from their physical attributes to their biological composition.

Understanding the anatomy of lips involves recognizing the differences between the upper and lower lips and the specialized terms used to describe various parts, such as the vermillion border and vermillion zone. The presence of the Cupid's bow on the upper lip adds to the distinctiveness of human lips, contributing to the richness of facial diversity.

The thinness of lip skin compared to other facial skin is particularly notable, given its role as a barrier between the external environment and the interior of the mouth. This thinness enhances sensitivity, allowing the lips to discern tactile sensations with precision.

The variation in lip coloration resulting from variances in melanin content is a fascinating aspect, demonstrating the interplay of genetics and environmental influences on human appearance. It underscores the broad spectrum of human skin tones, even in seemingly small areas like the lips.

In summary, lips are a complex yet indispensable aspect of human anatomy, serving both practical and aesthetic purposes while highlighting the intricacies of biological diversity.



**Figure: Anatomy of lips**

The upper lip extends over the anterior portion of the maxilla's body. Its upper region usually shares the same skin tone as the face, showcasing a central dimple referred to as the philtrum beneath the nasal septum. The lower part exhibits a distinct reddish hue akin to the inner mouth, termed the vermillion. It is elevated by the elevator labii superioris muscle and connects with the lower lip via the thin mucosal lining, observable when the mouth is agape before a mirror.

## MATERIAL AND METHODS :

Sr. No.	Name of Ingredients	Properties
1	Bees Wax	Lubricating agent
2	Almond Oil	Humectants, moisturizer
3	Coconut Oil	Emollient , Occlusive agent
4	Vanilla Essence	Fragrance , perfuming agent
5	Vitamin E	Hydrating agent ,Preservative

**Method:**

- 1) **Prepare your workspace:** Ensure you have a clean, dry surface for working, and make sure all utensils and containers are clean and sterilized.
- 2) **Melt the ingredients:** Using a double boiler or a heat-safe bowl over a pot of simmering water, melt the beeswax, coconut oil, and shea butter until they are fully liquid.
- 3) **Add oils (optional):** If desired, add almond oil to the mixture, ensuring a ratio of approximately 1 part beeswax to 2 parts oils, adjusting for desired consistency.
- 4) **Stir well:** Thoroughly stir the mixture to ensure even incorporation of the oils with the melted beeswax.
- 5) **Add color (optional):** For tinted lipsticks, add beetroot powder to achieve the desired hue. Stir well to evenly distribute the color.
- 6) **Incorporate fragrance (optional):** If desired, add a small amount of vanilla essence for fragrance. Stir to distribute evenly throughout the mixture.
- 7) **Incorporate vitamin E:** Add a few drops of vitamin E oil for its natural preservative and moisturizing benefits.
- 8) **Test the consistency:** Before pouring into containers, test the mixture's consistency by placing a small drop on a cool surface. Adjust thickness by adding more beeswax for a firmer texture or more oil for a softer one.
- 9) **Pour into containers:** Once you've achieved the desired consistency, carefully pour the mixture into your chosen containers while it's still warm and liquid.
- 10) **Cool and set:** Allow the lipsticks to cool and set completely at room temperature, which may take a few hours depending on container size and ambient temperature.
- 11) **Label and store:** Once set, label your homemade lipsticks with their ingredients and any other relevant information. Store them in a cool, dry place away from direct sunlight.

Now you have your homemade lipsticks ready for use! Enjoy the natural, nourishing benefits of your DIY creation.

**Composition and importance of different ingredients used for preparation of herbal lipsticks.**

Ingredients	Quantity Taken	Importance of Ingredients
Bees wax	1 gm	Hard wax (hardness )
Almond oil	1ml	Hard wax (hardness )
Coconut oil	1.5 ml	Hard wax (hardness )
Vanilla Essence	5-6 drops	Flavoring agent
Vitamin E	q.s	Antioxidant

**Evaluation of herbal Lipsticks :**

1. **Colour and Texture:** Formulated lipsticks were assessed for color vibrancy, glossy finish, and smooth texture.
2. **pH Measurement:** The pH of formulated herbal lipsticks was measured using a digital pH meter (Systronics, 802).
3. **Melting Point Determination:** Determining the melting point is crucial in lipstick formulation as it indicates the safe storage limit. The melting point of formulated lipstick was determined using the capillary tube method. Approximately 50 mg of lipstick sample was melted and filled into a glass capillary tube open at both ends. The capillary was cooled with ice for 2 hours and then secured with a thermometer. The thermometer, with the capillary, was immersed in a beaker filled with water placed on a heating plate with a magnetic stirrer. Heating and stirring were gradually increased at a fixed speed. The temperature at which the material moved along the capillary tube was recorded as the melting point.
4. **Breaking Point Analysis:** This test aimed to determine the maximum load the lipstick could withstand before breaking, indicating its strength. The prepared herbal lipstick was placed horizontally in a socket, one inch away from the edge of support. The weight was incrementally increased by a specific value (10 g) at intervals of 30 seconds until the lipstick broke. The weight at which the break occurred was noted as the breaking point.
5. **Softening Point Determination:** Lipsticks need to withstand various temperature conditions and remain easy to apply. The softening point was determined using the Ring and Ball method.

6. **Ring and Ball Method:** A support orifice was prepared, and the herbal lipstick was inserted into it. Excess mass above and below the orifice was removed using a sharp blade, leaving a tablet of lipstick fitted into the ring. This assembly was placed in a refrigerator (6°C) for about 10 minutes. The ring was then tied onto a stand. A beaker containing 500 mL of water at room temperature was placed on a hot plate with a magnetic stirrer. A steel ball was delicately placed on the lipstick tablet, and the assembly was submerged into the beaker. Heating and slow agitation were initiated, with temperature monitored using a thermometer. The temperature at which the lipstick mass and steel ball loosened and fell to the bottom of the beaker was noted as the softening point.
7. **Surface Anomalies:** Surface defects such as crystal formation, contamination by molds or fungi, wrinkles, and exudation of liquid or solid fatty substances were studied.
8. **Aging Stability:** Prepared herbal lipsticks were stored at refrigerator temperature (4°C), room temperature (20-25°C), and high temperature (30-40°C) for 1 hour. Various parameters such as bleeding, streaking, catering, and blooming were observed.
9. **Perfume Stability:** The prepared herbal lipsticks were tested after 30 days to assess fragrance stability

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## Result and Discussion :

There has been rapid boost in use of cosmetics by women. However, the problems caused 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. Herbal lipstick was successfully formulated using natural edible coloring matter like Beetroot extract, turmeric powder, cocoa powder as a coloring agent and were used for further evaluation. The substance like Cinnamon bark, turmeric powder, cocoa powder and lemon juice are well known for their medicinal and cosmeceuticals value in the traditional Indian system of medicine. They stimulates cells to provide more elasticity and less wrinkled properties to the skin

evaluation parameters of Herbal Lipstick are resemble with standard values and marketed formulation

Sr. No.	Parameter	Herbal Lipstick Formulation	Marketed Formulation	Standard Values
1	Color	Wine Red	Red	-
2	Texture	Smooth	Smooth	Smooth
3	PH	6.3	6.6	6.4
4	Melting Point	60.64 C	62-64 C	60.66 C
5	Breaking Point	250 gm	140 gm	-
6	Softening Point	60 C	62 C	50-60 C
7	Surface Anomalies	No defects	No defects	No defects
8	Aging Stability	Smooth	Smooth	Smooth
9	Perfume stability	+++	+++	+++

**Table : Evaluation of herbal Lipstick .**

## CONCLUSION :

he study has determined that formulating herbal lipstick with various natural ingredients like white beeswax, coconut oil, almond oil, vanilla essence, beetroot extract, turmeric powder, and vitamin E is a preferable option to synthetic coloring agents, which may lead to various side effects. Following comprehensive clinical trials, consumers can confidently utilize this herbal lipstick, ensuring both safety and efficacy.

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