



FORMULATION, DEVELOPMENT AND COMPARATIVE STUDY OF HERBAL LIPSTICK BY USING DIFFERENT PIGMENTS

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Abstract

Herbal Lipstick is a cosmetic product containing pigments, oils, fragrance, preservatives, colors, texture and protection to the lips. Lipstick formulation is used to augment the beauty of lips. Herbal lipsticks are gaining popularity because natural cosmetics are safe. It is easy to use and handle by women. In market hundreds of shades of colors are available to satisfy the demand by the women's. Herbal lipsticks having minimum side effects. The herbal lipstick having natural ingredients or nutrients it is safe to use that keep lips healthy. This research mainly focuses on natural ingredients, formulation, extracts, and defects in lipstick. There is no any side effect in herbal lipstick that's why we are doing herbal lipstick. Also doing the evaluations parameters like smoothness, greatness, melting point, breaking point and pH parameters.

Keywords- Natural, Herbal ingredients, Pigments, side effect.

I. INTRODUCTION

Cosmetic are substances used to enhance the appearance of the human body. Cosmetic means any article intended to be sprayed poured rubbed or sprinkled on, or introduced into or any parts for cleansing, beautifying, promoting attractiveness or altering the appearances. Cosmetic also include skin care skin, lotions, powders, perfumes, fingernails and toy nail polish, eye, color contact lenses hair colors, hair spray and gels, deodorants, baby products oils, bubble bath, bath salts, butters and many other types of product are in a great demand in both developing and developed countries. Cosmetics are the substance use to alter of appearance or fragrance of human body. Nowadays the demand of herbal cosmetic in the world market is growing and is inevitable gifts of nature. There are a wide range of herbal cosmetic products to satisfy the need of women. In contrast to synthetic one the herbal cosmetic are safe on human health. Lipstick is most widely used cosmetic added in the make up to enhance the beauty of lips. In present days the used of product has increase and a lot of changes occur in choice of shades of color, textures, luster of the lipstick.

A good lipstick should have persuading characteristics and be acceptable to consumer, such as having a suitable texture and antioxidant properties. Bases, oils, emollient and colorant are among the variety of components that contribute to properties of fine lipstick. Texture, melting point and hardness of lipstick are the dominant characteristics that are modified by varying the ratio of component that are used in the formulation. Colorant or pigment are the component that play and important role in the, lipstick formulation as it determines the aesthetic value of lipstick. Colorant can be from synthetic and natural sources. Synthetic colors are manufactured chemically. The synthetic dyes that contribute the color to the

lipstick are dangerous to human on consumption and may cause adverse effect such as allergy, dermatitis, skin discoloration, drying of lips, etc. In some cases they can be carcinogenic and even fatal. This limitation thus leads the use of natural colorants in production of lipstick. Natural colors are extracted from natural sources plants, insects and algae.⁴



Fig.1- Natural Lipstick



Fig.2- Herbal Lipstick

II. History

Ancient Sumerian men and women were possibly the first to invent and wear lipstick, about 5,000 years ago. They crushed gemstones and used them to decorate their faces, mainly on the lips and around the eyes. Also Egyptians like Cleopatra crushed bugs to create a colour of red on their lips. Also around 3000 BC to 1500 BC, women in the ancient Indus Valley Civilization applied red tinted lipstick to their lips for face decoration. Ancient Egyptians wore lipstick to show social status rather than gender. They extracted the red dye from focus- align, 0.01% iodine, and some bromine mannite, but this dye resulted in serious illness. Lipsticks with shimmering effects were initially made using a pearlescent substance found in fish scales. In the 19th century, lipstick was colored with carmine dye. Carmine dye was extracted from cochineal, scale insects native to Mexico and Central America which live on cactus plants. Cochineal insects produce carminic acid to deter predation by other insects. Carminic acid, which forms 17% to 24% of the weight of the dried insects, can be extracted from the insect's body and eggs.

This lipstick did not come in a tube; it was applied with a brush. Carmine dye was expensive and the look of carmine colored lipstick was considered unnatural and theatrical, so lipstick was frowned upon for everyday wear. Only actors and actresses could get away with wearing lipstick. In 1880, few stage actresses wore lipstick in public. Lipsticks are also term as lips cosmetics are widely used by woman. Lipstick have become so popular in the last couple of decades that they are now probably used more than any other single cosmetic product, its popularly can be gauged from the fact that market has been flooded with plenty of product with hundreds of sheds. In this mini research project we are performing comparative study between lipstick and lip balm using natural colorants. Now days many brands has come up with lead free lipstick (e.g. Dior, Avon, MAC, Revelon, Tarte etc.).⁴

DEFINITION

Lipstick is a cosmetic product containing pigments, oils, waxes, and emollients that applies color and texture to the lips. There are many varieties of lipstick, Lippy is a common British word for lipstick.



Fig.3- Just Herbal Lipstick

III. Ideal Characteristics of Good Lipstick

- 1) It should be non - irritant.
- 2) It should have required plasticity.
- 3) It should non-toxic.
- 4) It should be stable both physically and chemically.
- 5) It should not dry on storage.
- 6) It should be free from greatly particle.
- 7) It should maintain lip color for longer period after its application.
- 8) It should give shiny and smooth appearance free from sweating.
- 9) It should have pleasant taste, odor and flavor.
- 10) It should not melt or harden within reasonable variation of climatic temperature.⁴

IV. Advantage and Disadvantage of Herbal Lipstick

Table No.1 Advantage and Disadvantage of Herbal Lipstick

ADVANTAGES	DISADVANTAGES
Lipstick really defines your face	It does become a habit
Lipstick protects and Moisturizes your lips	It is not easy to remove
Lipstick makes you look healthy and well	Mistake are costly
Lipstick makes yourFace look slimmer	It can damage your skin
Lipstick provides beautyto face.	You spend goodamount on it

V. Anatomy of lips

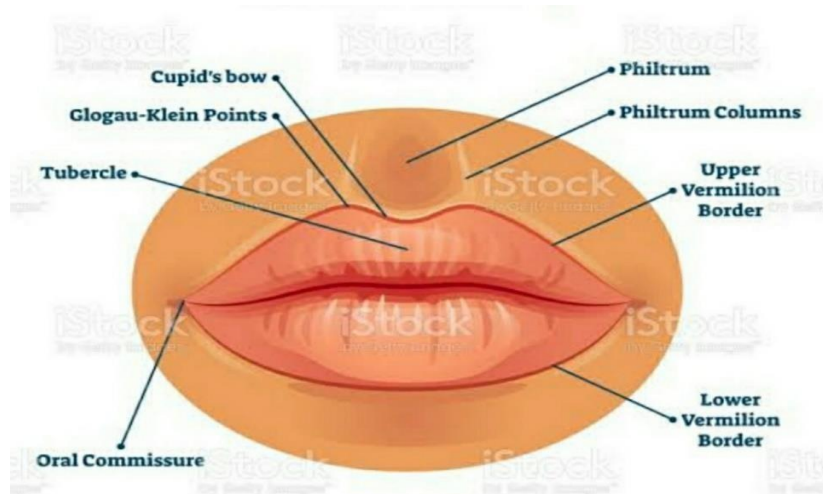


Fig.4 -Anatomy of Lips

Lips, soft pliable anatomical structures that form the mouth margin of most vertebrates, composed of a surface epidermis [skin], connective tissue, and a muscle layer. The upper and lower lips are referred to as the "Labium superiusoris," and " Labium inferiusoris," respectively .The juncture where the lips meet the surrounding skin of the mouth area is the vermilion border, and the typically reddish area within the borders is called the vermilion zone. The vermilion border of the upper lip is known as the Cupid 's bow. The fleshy protuberance located in the center of the upper lip is a tubercle known by various terms including the procheilon, the "tuberculumlabiisuperioris ", and the "labial tubercle. The vertical groove extending from the procheilon to the nasal septum is called the philtrum.

The skin of the lip, with three to five cellular layers, is very thin compared to typical face skin, which has up to 16 layers. With light skin color, the lip skin contains fewer melanocytes. Because of this, the blood vessels appear through the skin of the lips, which leads to their notable red coloring. With darker skin color this effect is less prominent, as in this case the skin of the lips contains more melanin and thus is visually darker. The skin of the lip forms the border between the exterior skin of the face, and the interior mucous membrane of the inside of the mouth. The lip skin is not hairy and does not have sweat glands.

Therefore, it does not have the usual protection layer of sweat and body oils which keep the skin smooth, inhibit pathogens, and regulate warmth. For these reasons, the lips dry out faster and become chapped more easily. The lower lip is formed from the mandibular prominence, a branch of the first pharyngeal arch. The lower lip covers the anterior body of the mandible.¹

VI. Types of lipsticks

There are many types of lipsticks and they can be used according to your mood or shape of your lips. Today lipstick market contains variety of products with many effects and characteristics. Here are some types of lipsticks with basic characteristics.

1. Cream Lipsticks - Lipsticks with cream in them are excellent for women who have small lips. They are not shiny, but they are rather smooth and produce a more even look. If you like, you can use lip gloss over the lipstick for a great look. Because cream lipsticks contain more wax than other types of lipsticks, which protects the lips from drying out, they are also a very healthy type of lipstick.

2. Gloss Lipsticks – This is very popular type of lipstick for women who have small and thin lips because gloss lipsticks give your lips a little shine and make them look a little bigger. If you like, you can use regular lipstick underneath the lip gloss, which gives you the perfect mix of color and shine.

3. Lipstick Stains – Lipstick stains concentrate on color with only minimal shine, and they are always long-lasting. These types of lipsticks are low-maintenance and high-impact, and they are available in dozens of colors and shades. Usually packaged in the form of a pencil, lipstick stains look great when they are layered with different colors, if you want a look that is subtle and soft. They are very simple to apply, and, in fact, they are a lot of fun to apply and to wear.

4. Long-Wearing Or Transfer-Resistant Lipsticks – If you work long hours or attend parties and don't feel like reapplying your lipstick throughout the day or night, a long-wearing lipstick is something that you might like. Most of these lipsticks are meant to stay on your lips for four to eight hours, sometimes more, although some of them have to be reapplied if you eat something oily or greasy. Moreover, some of them even add moisturizer so that your lips don't get dry while you're wearing them.

5. Matte Lipsticks – Some women simply don't like the shiny lipsticks available today, which is why so many matte colors are now available. Instead of shine, you get a flat look when you apply the lipstick, but they still come in dozens of beautiful and colorful shades. Matte lipsticks make your lips look smoother and younger, and if you use lipsticks that have vitamin E and aloe in them, they can protect your lips as well.

6. Moisturizing Lipsticks – You can use moisturizing lipstick whether your lips are already dry or you are trying to prevent them from getting that way. With ingredients such as aloe, glycerin, and vitamin E, these lipsticks are specifically made to keep your lips not only moisturized but also smooth and soft. They can also make your lips shiny and give them a wet look, making them more attractive as well as healthier.

7. Pearl/Frosted Lipsticks – This type of lipstick makes your lips glisten and sparkle. They reflect light and give your lips a very shiny effect. The only negative aspect of pearl or frosted lipsticks is that some of them can cause your lips to feel dry, heavy, or even cracked, which is one of the reasons that it is recommended that you moisturize your lips before you use this type of lipsticks.

8. Sheer/Satin Lipsticks - Sheer and satin lipsticks are another choice when your lips are getting dry because they nourish and moisturize your lips, as well as make them glossy and shiny. These lipsticks have a lot of oils in them, so they may appear lighter when you put them on than they looked in the package. High-oil lipsticks should also be reapplied throughout the day for the best effect. The sheer/satin look is also perfect for evening events because it tends to produce a look that is on the glamorous side.

VII. Styles of Applicators

1. Lipsticks Cream- Lipsticks cream usually come in containers that have more than one shade of lipstick in them, and the lipstick is soft, wet, and usually comes in a round or square shape. Although most of these lipstick containers come with applicators, most women apply them with their fingers

because it is faster and more convenient. Lipstick cream are easy to apply and feel good on your lips, and they tend to be inexpensive as well.

2. Lipstick Pencils – Just as the name suggests, these lipsticks come in the form of a pencil, which makes them extremely easy to apply. They usually come with a pointed tip, making it easy to apply the lipstick to every part of your lips. There are no missing spots on your lips with this type of lipstick because the pointed tip makes applying the color to your entire lips a very easy thing to do. You can also buy pencil sharpeners that keep the tip pointed for a very long time, and these sharpeners cost very little money.

3. Lipstick Tubes/Sticks – These are standard lipsticks that most people think of when they go out to buy lipstick. They have tops, and you turn the cartridge to get the lipstick to the right level. They are inexpensive and come in hundreds of styles, types, and colors, and you can even buy these tubes in lip gloss and moisturizers that have a white color. The most common type of lipstick applicator, these tubes are inexpensive and easy to use.

4. Liquid Lipstick – Liquid lipstick is usually inside some type of thin tube, and there is a sponge-like tip that makes it easy to apply the lipstick. There are also types of liquid lipstick that you can squeeze onto your lips directly from the tip of the container. In both cases, the lipstick feels wet against your lips, is very easy to apply, and usually contains a moisturizer so that your lips don't dry out. Liquid lipstick is often some type of gloss, but it can be found in various colors and shades, as well.⁹

VIII. Ingredients

General Formulation

Table No 2- General Formulation of Herbal Lipstick

Sr.No	Ingredients	Quantity	Properties
1	Bees wax	14g	Thickening Agents
2	White soft paraffin	6g	Base
3	Olive oil	5ml	Moisturizing Agent
4	pigment	1g	Binder
5	Acacia	1g	Additive
6	Orange Juice	1ml	Antioxidant
7	Vitamin E	1ml	Antioxidant
8	Strawberry essence	1ml	Flavoring agent
9	Perfume	q.s	Fragrance agent

IX. Uses of Ingredients

1) BEES WAX:

.It is thickening agent.

.Bees wax is used in lip-balm, lip-gloss and hand creams.

. Bees wax help retain moisturizing skin.

. Bees wax is widely used in cosmetic product.



2) White soft paraffin:

- . It is used in many cosmetic and personal care product like lipstick, lotion, creams.
- .It reduces friction on the skin.
- . It is used as emollient.
- . It is helps to restore the skin's smoothness, softness and flexibility



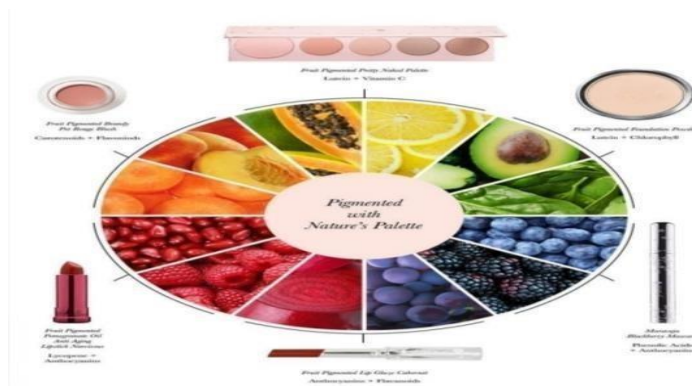
3) Olive Oil:

- . Its soft supple lips.
- . It is used for superior hydration.
- .It reliefs from cracked and chapped lips.



4) Pigment:

- . Inorganic pigment used in lipstick.
- . It is used as a binder.
- . It gives clear gloss to lips.

**5) Acacia:**

- . It is emulsifying and a suspending agent.
- . It's increasing the viscosity of lipstick.
- . Preventing the color from lightening.
- . Maintenance the thickness of lipstick.

**6) Orange Juice:**

- . Best for dry lips and its universal shade.
- . Used to healthy lips and prevents the cell damage.
- . It's reducing the inflammation.
- . It have to fight the urge to smear.
- . It used to preventing colds.

. It is used for the smoothness of lips.



7) Vitamin E:

.Vitamin E can be incorporated into nearly anything, even lipsticks and mascaras.

. Because it is a universally beneficial ingredient, it is hard to find products that do not contain this good-for-you product.

. Vitamin e is the ingredient of herbal lipstick.



8) Strawberry Essence:

. It is used in an ingredient of herbal lipstick.

. The role of strawberry essence is flavoring agent.

. It is the natural of lipstick.

. It gives the different color and flavor of herbal lipstick.

. it softens the lips, nourishes and protects them against environmental impact.



9) Perfume:

. It is used as fragrance.

. It is used to create a more natural aroma.

.It is used to give the pleasant scent.



X. Aim of work

Formulation, development and comparative study of herbal lipstick by using different pigments.

OBJECTIVE OF WORK

- Herbal lipsticks are free from hazardous chemicals.
- Herbal lipsticks have many advantages it should be protect lips from dryness and cracking.
- The formulated herbal lipsticks was evaluated with several parameters likesmoothness, greatness, melting point, breaking point, and pH.
- Lipsticks define your lips brightness your smile, provided you choose the right shade.
- Women who where lipstick feel more confident and powerful.

XI. Plan of work

Phase 1- Preformulation study

- Physical appearance
- Melting point
- Determination of solubility
- Acidity test

Phase 2- Formulation method

Weight all ingredients in porcelain dish. Place the porcelain dish in water bath with all ingredient are melted. Then beeswax is mix with olive oil with constantly. Then added the acacia to the mixture. Pigment and orange juice are also added as are coloring, Antioxidant and preservative. White soft paraffin is added as are moisturizing to lip. Then added the vitamin E as are the new cell develop and smoother. Flavoring agent is strawberry essential is added. Then also added perfume for good smell Place in the freezer. Scrap the top layer by sharp knife and remove stick by the mold. Pass the lipstick through the flame is quick fashion it give gloss to the surface layer of the lipstick. Performing softening temperature test. Place the lipstick in lipstick container.

Phase 3- Evaluation parameters

- Melting point
- Breaking point
- Force of application
- Surface anomalies
- Aging stability
- Solubility test
- PH parameters
- Skin irritation test
- Perfume stability

XII. Review of literature

Aboli Bornare et.al reviewed that the herbal lipstick having natural ingredients or nutrients it is safe to use that keep lips healthy. This review mainly focuses on natural ingredients, formulation, extracts, and defects in lipstick. There is no any side effect in herbal lipstick that's why we are doing herbal lipstick. Also doing the evaluations parameters like smoothness, greatness, melting point, breaking point and pH parameters.

Nileshwari P. Chaudhari, et.al reviewed mainly focus on formulation, extraction of natural color-ants, evaluation of lipstick and defects in lipstick and the adverse effect can be reduced by using natural color extract from different natural sources.

Pooja Mishra et.al developed that the lipstick containing herbal ingredients, since lipsticks are one of the key cosmetics to be used by the women. Attempt was also made to evaluate the formulated herbal lipsticks. From the present investigation it was found that the HL, F-3 having promising results such as pH 6.89+0.12, melting point 59-62, thixotropy 10.5 etc

Rajanigandha N. Chavan, et.al developed the quality of lipstick is directly link to basic material use in the formulation. Natural ingredients based products are getting popular, as a public concerned toward long term effect of synthetic material in cosmetic formulation increased. In this work, natural colorants based lipsticks were produced. This formulation consists of oil mixtures, wax mixtures, bromo mixtures, colours, and other additives. It was prepared with beet root powder and natural food colour which gives pink colour as well as combination of cocoa powder, coffee and cinnamon gives chocolate brown colour. The lipstick were use previously contains organic colours which contain may harmful agents like lead, manganese, cadmium, etc. which are carcinogenic in nature and may leads to many side effects.

Richa Kothari, et.al developed that the herbal lipstick using natural edible coloring matter like cinnamon bark powder, turmeric powder, cocoa powder as a coloring agent. Along with different natural ingredients such as bees wax, butter, coconut oil, olive oil, castor oil, Vanilla & rose essence and lemon juice were used to formulate herbal lipstick. Prepared herbal lipstick were evaluated for different evaluation test such as color, texture, pH, melting point, breaking point, softening point, surface anomalies, ageing and perfume stability and also compared with marketed standard formulation. Results showed that, different evaluation parameters of prepared herbal lipstick were resembled with standard values and with marketed formulation. Study revealed that, natural edible colouring matter may be the better option for preparation of herbal lipsticks.

Anilkumar.V, et.al developed that the Physical properties like breaking point, melting point skin irritation etc.. Results: The results exhibit that all the herbal lipsticks were stable and has good force of application while the Breaking point reached 30- 39 sec. The melting point containing different weights of castor oil and beeswax were 59-70 respectively, while the pH test resulted in 6.5- 6.9. In addition, hedonic test showed that respondents like the exciting color, fragrant smell, and oily texture of the lipsticks. The lipsticks themselves did not cause any irritation, so they were safe to apply. Conclusion: The Herbal lipstick from natural color pigment formulations F3 had met the physical requirements stability standards, as well as safety requirements.

Pandit Deepika et.al developed that lipstick containing herbal ingredients, evaluations and their comparison with marketed formulation. From the present investigation it was found that that the formulation having promising results such as pH 6.5+0.12, melting point 60-61°C etc. Based on the data, it can be concluded that the use of natural colorants in lipstick formulation having very less or no side effect. Thus, the prepared lipstick can take safe and effective after thorough clinical trials.

XIII. DRUG PROFILE

1) Bees-Wax

- Synonyms- Yellow wax /Cera alba
- Colour – Yellow or white
- Odour – Agreeable and honey like
- Melting point -60-65 °C
- Boiling point – 64.5°C
- Chemical composition- -80% Myricyl

- Cerotic acid
- Melidssic acid

2) White Soft Paraffin

- Synonyms- White petrolum jelly ,vaselline
- Colour – White
- Odour – Odourless
- Melting point-46-68°C
- Boling point – 370°C
- Chemical composition- Semi soild mixture of hydrocarbons.

3) Oilve oil

- Synonyms - Grease, Lubricating oil, Linseed oil
- Colour – Yellowish
- Odour – Odourless
- Melting point – 21°F
- Boling point- 570°F
- Chemical composition – Triacylglycerols and free fatty acids.

4) Acacia

- Synonyms- Agar / Gum Arabic
- Colour- Pale yellow
- Melting point – 0-100°C
- Boling point – 250°C
- Chemical composition – Complex mix of Ca , Mg and K salts of Arabic acid
- Odour – Odourless

5) PigmentsI . Beet root

- Synonyms – Chard / beta/ mangel
- Colour - Red
- Melting point –58-60 °C
- Boiling point – 983.47°C
- Chemical composition – Betalains

6) Palas Flower

- Scientific name – Butea monosperma
- Colour – Orange –yellow
- Synonyms – Parrort tree / buteagum
- Melting point – N/A
- Boiling point – N/A
- Chemical composition – Tannin , mucilaginous , pyrocatechin

7) Amaranth

- Scientific name – Amaranthus
- Synonyms – mugwort / arimony / phacelia
- Colour – Green - purple
- Melting point – 120°C
- Boiling point – N/A
- Chemical composition – Inositol, glucose , fructose .

8) Vitamin – E

- Scientific name – Tocopherol
- Synonyms – Aliment / Nutrition / Water soluble vitamin
- Colour – Red colour
- Melting point – 3°C
- Boiling point – 120°C
- Chemical composition – Tocopherols, Tocotrienols .

9) Vanilla essence

- Scientific name –
- Synonyms – vanilla methyl vanillin vanillic aldehyde
- Colour – Amber
- Melting point – 81°C
- Boling point – 285°C
- Chemical composition – Heliotropin and Diacetyl butadiene
- Odour - Pleasant smell

10) Lemmon juice

- Scientific name – Citrus limon
- Synonyms – flavour / savor /smack
- Colour – Colourless
- Melting point – 156°C
- Boiling point – 310°C
- Chemical composition – water, citic acid , carboxylic acid
- Odour – odourless

11) Rose water

- Scientific name – rosa damascena
- Synonyms – Attar of roses
- Colour – clear
- Melting point – 0°C
- Boiling point – 100°C
- Chemical composition – Rose petals
- Odour – rose

XIV. Material and equipments

Table no 3- Materials

Sr. no	Drugs/Excipient	Manufactures
1.	Bees Wax	Research Lab Fine Chemical Industries.
2.	White soft paraffin	Research Lab Fine Chemical Industries
3.	Oilive oil	Pharmaceutics lab , DCOP Latur.
4.	Pigment	Local store
5.	Acacia	Pharmaceutics lab , DCOP Latur.
6.	Lemmon juice	Local store
7.	Vanilla essence	Local store
8.	Rose water	Local store

Table no 4- Equipment

Sr. no	Equipment name	Company
1.	Molds	GSW Lipstick Mold
2.	Refrigerator	LG

XV. Methodology and Evaluation parameters

Preformulation Study -

Melting point: -The temperature at which solid and liquid phases exist in equilibrium without change in temperature.

Breaking point: - Breaking point of lipstick should be evaluated for conforming strength of lipsticks.

Force of Application: - Force of application to evaluate the value of force to apply to surface.

Surface anomalies: -This test is for determining the surface defects, such as no formation crystals on surfaces, no contamination by molds, fungi etc.

Aging stability: -Store the product in 40 °C for 1 hour and observing the various parameters such as application characteristics, crystallization of wax on surface and oil blends.

Solubility test:-Dissolve the lipstick in different solvents and observe the solubility in each solvent.

pH parameters: - Determine the pH of the lipstick by using pH meter.

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

Perfume stability: -Perfume stability can also be assessed by storing lipstick in oven at 40°C and by making periodic comparison of perfume with fresh lipstick.³

XVI. Defects in lipstick

Formulation Related Problem

Sweating: - It is the most common problem of lipstick formulation due to high oil content or inferior oil binding. It may rise in any climate or temperature range.

Bleeding: - This refers separation of colored to the liquids from the waxy base.

Streaking: - A thin line or band of a different color or substances appears on the finished product.

Molding Related Problems

Laddering: -Lipstick does not look smooth or homogenous after congealing and setting but instead has a multi-layered appearance.

Deformation: -This is a molding problem where the shape of the lipstick looks deformed. It is noticeable and appears on both sides of the lipstick.

Cratering: -This appears in split molding and it shows up flaming when stick develops dimples.

Mushy Failure: - This is a problem in which the central core of the lipstick lacks structure and breaks.⁶

XVII. Extraction Procedure of Pigment

Extraction of color pigment from Beet root:

Beetroot is that the main supply box natural red dye called "Beet root red". Betanine is the main part of the red colorants extracted from common beet. The roots are most typically deep red- purple in color, however it is available a large kind of alternative shades, like golden yellow, red and white stripy.

Extraction of pigment is by homogenization of equal ratio of fruit pulp and solvents(1/1 w/v) .Take 100 g of the peeled fruit , of watery consistency, and macerated it with 100 ml of Solvents (Et OH, aqueous ethanol 50:50) for 15minutes under ice bath. Centrifuge the aqueous mixture at 18,000 RPM, 40 c for 20 min, and filter immediately through Nylon mesh. By using rotary evaporator concentrate the extract in vacuum at 350 c , to 3-4 ml. Completely remove the alcohol through concentration process and keep the samples in a dark vessel.25,2

Common name –Beet root Botanical name- Beta VulgarisKingdom- Plantae

Family-Amaranthaceae Used part-Tap root potion

Extraction of pigment from Buteamonosperma

In this study, from the petals of the Flame of forest (*Buteamonosperma*) flower was extracted under different operating conditions such as extraction time (45–120 min), temperature (60– 90 °C) and mass of the petals (0.5–2 g) by conventional extraction technique. Response surface methodology (RSM) with the help of Design Expert Version 7.1.6 (STAT-EASE Inc.,USA) was used for optimization of the extraction process and evaluation of interaction effects of different operating parameters. The optimum conditions for dye extraction were found to be 153.65 min, 73.53 °C and 1.47 g for extraction time, temperature, and mass of theflower respectively.

Common name: Tesu, Palas English name: Flame of forest Botanical name: *Buteamonosperma*

Kingdom: Plantae

Order: Fabales

Family: FabaceaeUsed part: Flower

Extraction of pigment from amaranath

Extraction of natural amarath food coloring matter is carried out by taking edible amaranth asraw material bleaching , cutting it up , soking in water, taking leaching liquor out , filtering , first super nanometer filtering membraine filtering to remove impurities with molecular weghit above 726, carrying concentrate made from coloring matter with molecular weight above 550 , and vacuum spray drying for concentrate to obtain final product. It is cheap, as higher efficiency , better quallity and less consumption . It can be used in production of wine candy juice and deserats , pigments .

Common name-Amaranth

Botanical name-Amarathus tricolour L

Kingdom-Plantae

Family-Amaranathaceae

Used part-Leaves

Amaranth is used as pigment source .

Source- pharmaceutical lab

XVIII. Formulations

Table no 5- Formulation 1

Sr no	Ingredients	Quantity
1.	Bees Wax	14 g
2.	White Soft Paraffin	6g
3.	Olive Oil	5ml
4.	Palas Flower	1g
5.	Acacia	1g
6.	Lemmon juice	1ml
7.	Vitamine E	1ml
8.	Vanilla Essence	1ml



Fig – F1 Formulation of herbal lipsticks

Table no 6- Formulation 2

Sr .No	Ingredients	Quantity
1	Bees Wax	12g
2	White Soft Paraffin	11g
3	Olive Oil	10ml
4	Beetroot	8ml
5	Acacia	2gm
6	Lemmon Juice	1ml
7	Vitamin E	1ml
8	Vanilla Essence	1ml
9	Perfume	q.s



Fig- F2 Formulation of herbal lipsticks

Table no 7- Formulation 3

Sr.No	Ingredients	Quantity
1	Bees Wax	14g
2	White Soft Paraffin	6g
3	Olive Oil	1ml
4	Palas Flower	5g
5	Acacia	1g
6	Lemmon Juice	1ml
7	Vitamin E	1ml
8	Vanilla Essence	3ml
9	Perfumes	qs



Fig- F3 Formulation of herbal lipstick

Table no 8- Formulation 4

Sr.No	Ingredients	Quantity
1	Bees Wax	13g
2	White Soft Paraffin	10g
3	Olive Oil	3ml
4	Amaranth	0.5ml
5	Acacia	1g
6	Lemmon Juice	1ml
7	Vitamin E	1ml
8	Vanilla Essence	5ml
9	Perfume	qs



Fig – F4 Formulation of herbal lipsticks

Table no 9- Formulation 5

Sr.No	Ingredients	Quantity
1	Bees Wax	9g
2	White Soft Paraffin	7g
3	Olive Oil	2ml
4	Amaranth	2g
5	Acacia	1g
6	Lemmon juice	1ml
7	Vitamin E	1ml
8	Vanilla Essence	4ml
9	Perfumes	qs



Fig – F5 Formulation of herbal lipstick

XIX. Evaluation test for Herbal Lipsticks

Color and Texture: Formulated lipsticks were checked for color, glossy and smooth texture.

pH: The pH of the herbal lipsticks was determined using digital pH meter.

Determination of Melting Point: Determination of melting point is an important parameter for lipstick formulation; as it is an indication of the limit of safe storage. It was determined by capillary tube method. Melt approximately 50mg sample of lipstick and filled into glass capillary tube opened at both ends. Capillary was cooled with ice for 2h and fastened with thermometer. Thermometer with capillary was deep in the beaker containing full of water which was placed on heating plate with magnetic stirrer. The temperature at which material moves along the capillary tube was considered as melting point.

Breaking Point: This test was carried out to find out the value of maximum load that lipstick can withstand before it breaks. This test gives strength of lipstick. Gradually the weight increases by a specific value 10gm at specific interval of 30 secs. The weight at which breaks was considered as the breaking point.

Softening Point: Lipstick should be able to withstand range of conditions to which it will be subjected in

the consumer's handbag. It should be resistant to varying temperature conditions and be just as easy to apply in hot and as in cold weather. Softening point of lipstick was determined by Ring and Ball method.

Surface anomalies: Surface defect like formation of crystals on surface, contamination by moulds, fungi, formation of wrinkles, exudation of liquid substances and of solid fatty substances, etc. were studied

Aging stability: In this test prepared lipstick was stored at three different temperatures i.e. refrigerator temperature (4°C), room temperature (20-25°C) and high temperature (30-40°C) for 1h. After 1h various parameters such as bleeding, streaking, catering and blooming was observed.

Perfume stability: The prepared herbal formulation was tested after 30 days, to record perfume stability solvent.

Skin irritation test: - Apply the lipstick on the skin for 10min and observe.⁶

XX. Result and discussion

Evaluation Parameters –

Table no 9- Evaluation parameters

Sr. no	Parameters Test	F1	F2	F3	F4	F5
1.	Colour	Pale yellow	Pale pink	yellow	pink	Dark maroon
2.	Melting point	54-55	60-61	60-63	50-60	59-61
3.	Solubility Test	Chloroform	Chloroform	chloroform	chloroform	chloroform
4.	Breaking Point (gm)	23	32	30	-----	31
5.	pH	7	1	6	3	14
6.	Perfume stability	+++	+++	+++	+	++++
7.	Aging stability	Smooth	Smooth	Smooth	Smooth	Smooth
8.	Skin irritation test	No	No	No	No	No

- F1 had a good consistency but no colored pigment retained in the formulation.
- F2 had good consistency but the colored pigment retained was of light colour.
- F3 had a good consistency but the colored pigment retained was up to an appropriate extent.
- F4 had good consistency but the colored pigment retained was with a better color.
- F5 had a very good consistency and the colored pigment retained was very high.

Ideal Formulation-**Table no 10- Ideal formulation**

Sr.no	Parameter Test	F5
1.	Colour	Dark Maroon
2.	Melting Point	59 – 61
3.	Solubility Test	Chloroform
4.	Breaking Point	31
5.	Ph	14
6.	Perfume Stability	++++
7.	Aging Stability	Smooth
8.	Skin Irritation Test	No

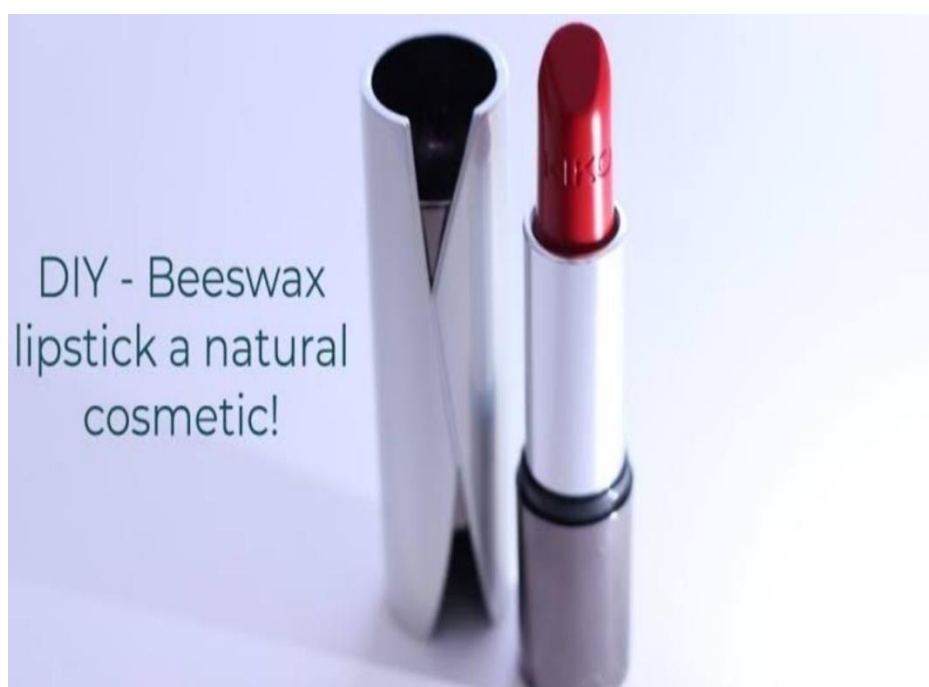
The study was undertaken with an aim to develop herbal lipsticks from the coloured pigments of Beta vulgaris, Amaranth, Buteamonosperma. To overcome the adverse effects of the synthetic lipsticks, these natural lipsticks were prepared by optimized formulas. In order to improve the consistency and colour of the formulation various attempts were made. The main problem encountered was the precipitation of coloured pigment which was then overcome by addition of surfactant and also by changing the formula of the preparation. Further the formulated lipsticks were subjected to quality control tests as per guidelines. The following conclusions were drawn from the experimental results

- Out of the six formulations prepared, consistency was uniform in F5 formulations.
- Different formulations were prepared so as to optimize the drawback which was seen in the previous formulation.
- Evaluation tests were performed to all formulations
- From both consistency and quality control tests point of view Formulation-5 (F5) was found to be the best formulation out of the six lipsticks that are formulated.

XXI. Conclusion

Study concluded that herbal lipstick can be successfully formulated using different natural ingredients such as white bees wax, olive oil, vanilla & rose essence, Beet root extract, pale powder, amaranth powder and lemon will be better option for synthetic coloring agents which may arise different side effects. Consumers can take safe and effective advantage of this herbal lipstick after thorough clinical trials. To overcome the adverse effects of the synthetic lipsticks, these natural lipsticks were prepared by optimized formulas.

Out of five formulations F5 is ideal formulation because F5 had a very good consistency and the colored pigment retained was very high.

MARKETED PRODUCTS**XXII. References**

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