



**PREPARATION AND EVALUATION OF NATURAL LIPSTICKS
FROM *BIXA ORELLANA* SEEDS.**

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ABSTRACT

Cosmetics are incredible in demand since historical time till day. Lipstick formulations are most widely used to enhance the beauty of lips and add glamour to touch to the makeup. With this aim and objectives, an attempt was made to formulate natural lipsticks by using colouring pigments of *Bixa orellana* seeds, and the lipsticks were evaluated for their organolaptic properties such as spreading, hardness, shine and gloss and found to be a satisfactory product to give attractive beauty. The preparation of these lipsticks with the natural ingredients like Bixa seeds, Olive oil, ripe fruit powder of Shikakai. Due to various adverse effects of available synthetic preparation, the present work was conceived by us to formulate a herbal lipsticks having minimal or no side effects which will extensively used by the women of our communities with great surety and satisfaction.

KEYWORDS: *Bixa orellana*, Herbal lipsticks, formulation, cosmetics.



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INTRODUCTION

Now a days, 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 medicines and natural curing practices for healthy life, there is much craze for the vegetable products cultivated through biological/organic farming without using synthetic fertilizers and pesticides. The usage of herbal cosmetics has been increased to many folds in personal care system and there is a great demand for the herbal cosmetics¹. Natural products have been used for folk medicine purposes throughout the world for thousands of years. Many of them have pharmacological properties, such as antimicrobial, anti-inflammatory and cytostatic effects. They have been recognized as useful for human medicine.² 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 sindhur, 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^{3, 4}. Colouring lips in an ancient practice date back to prehistoric period. In present days the use of product has increased and choice of shades of colours, textures, luster, have been changed and become wider. This can observed from the facts that lipstick is marketed in hundred of sheds of colours to satisfy the demand of the women⁵. 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 into the lipstick. The dyes that contribute to

the colour of the lipstick are dangerous to humans on consumption. In a mild form, the coal tars that are the basic ingredients from which synthetic dyes are formed can cause allergy, nausea, dermatitis, and drying of the lips. In a more severe form they can be carcinogenic and even fatal. 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 used by the women of our communities with great surety and satisfaction.

Bixa orellana Linn. Family (Bixaceae) is an ever green shrub native to Argentina, Bolivia, Brazil, Chile, and Colombia and exotic to India, USA and Thailand *Bixa orellana* appears like a small bush like a tree. It grows to about 5 or 6 meters high and has a peculiar reddish sap. The leaves are alternate, oval to heart shaped and 10-30 cm long. The flowers are large, pinkish in colour and produced in terminal clusters. The fruits are initially green but turn reddish – brown. They are fully covered by soft spines and when they are dry, open into two compartments exposing the seeds^{6, 7}. The roots bark and seeds of *B. orellana* are anti periodic, antipyretic and astringent. They are useful in intermittent fevers and gonorrhoea. The pulp surrounding the seed is a mosquito repellent and is useful to treat dysentery. The decoction of the root is used for liver diseases. The whole plant is bitter, purgative, cures leprosy, biliousness, kidney disorders and vomiting. Seeds and leaves of the annatto tree were used by the Aztecs to prepare remedies for a variety of illnesses such as tonsillitis, asthma, pleurisy, rectal disorders, headache, jaundice, sunstroke, and burns.⁸



Figure 1
Bixa orellana pod with ripe seed

MATERIALS AND METHODS

Selection of herbs

The various herbs used in the formulation of herbal lipsticks were selected on the basis of literature survey^{9, 10}.

Collection of plant material.

The herb used in formulation of herbal lipstick were collected in the months of September 2012 from the Medicinal plant garden, Alard College of Pharmacy, Marunje, Pune, (MS) and the plant seeds were used for preparation of herbal lipsticks.

Extraction of colour pigments

The shade dried coarsely powdered seeds of *Bixa orellana* (100 gms) were extracted with ethanol for 18 hrs. After completion of extraction, the defatted extract was filtered

while hot through Whatman filter paper (No.10) to remove any impurities if present. The extract was concentrated by vacuum distillation to reduce the volume to 1/10th; the concentrated extract was transferred to 100 ml beaker and the remaining solvent was evaporated on a water bath. Dark reddish coloured extract was obtained. The concentrated extract was then kept in desiccators to remove the excessive moisture. The dried extract was packed in air tight glass container for further studies¹¹.

METHODOLOGY

Formulation of Herbal Lipstick

The herbal lipstick was formulated as per method described¹², the ingredients used in the formulation of herbal lipstick are shown in Table 1.

Table 1
Preparation of Natural Lipsticks with their prescribed ingredients and quantity.

Ingredients	Quantity (gm)			Importance
	NL1	NL2	NL3	
Olive oil	16	12	13	Blending agent
Paraffin wax	28	29	26	Glossy and hardness
Bees wax	36	37	38	Glossy and hardness
<i>Bixa orellana</i> extract	0.6	0.7	0.8	Coloring agent
Ripe fruit powder of Shikakai	12	13	14	Surfactant
Strawberry essence	1.5	1.5	1.0	Flavouring agent
Lemon juice	01	01	0.5	Anti oxidant



Figure 2
Prepared Natural Lipsticks

Evaluation of Herbal Lipstick¹³

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

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 and kept in the capillary apparatus and firstly observed the product was slowly-slowly melted. After sometimes observed product was completely melted. The above procedure was done in 3 times and the melting point ratio was observed in all formulations.

Breaking point

Breaking point was done to determine the strength of lipstick. The lipstick was held horizontally in a socket 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.

Force of application

It is test for comparative measurement of the force to be applied for application. A piece of

coarse brown paper kept on a shadow graph balance and lipstick was applied at 45° angle to cover a 1 sq. Inch area until fully covered. The pressure reading is an indication of force of application.

Surface anomalies

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

Aging stability

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

Solubility test

The formulated herbal lipsticks were dissolved in various solvents to observe the solubility.

pH parameter

The pH of formulated herbal lipsticks were determined using pH meter.

Skin irritation test

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

Perfume stability

The formulated herbal lipsticks were tested after 30 days, to record fragrance.

Table 2
Evaluation of prepared Natural Lipsticks (NF1-NF3)

Evaluation Parameters	Inferences		
	NL1	NL2	NL3
Colour	Yellowish red	Yellowish red	Yellowish red
pH	6.5±1	6.7±1	6.8±1
Skin irritation	No	No	No
Melting point	60	52	48
Breaking point	25	30	32
Force of application	good	good	easy
Perfume stability	+	++	+++
Surface anomalies	yes	No	No
Aging stability	Smooth	Smooth	smooth
solubility	Ethanol	Ethanol	Ethanol

RESULT AND DISCUSSION

Different natural ingredients were used for formulating medicated lipsticks that contain colouring agent which is a natural colourant obtained from herb *Bixa orellana* and the effect of different natural ingredients on different evaluation parameters in the formulation have been investigated. The prepared lipsticks (table1) were evaluated (table2) and it was found that herbal natural lipstick, NL3 was best among all three lipsticks formulations. Hence from present investigation it was concluded that this formulated herbal lipstick having minimal and no side effects and thus showing maximum local effect on lips.

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CONCLUSION

This research provides guidelines on use of herbal ingredients in preparation of lipsticks having minimal and no side effect The natural ingredients like Olive oil, ripe fruit powder of Shikakai were used in the preparation of natural lipsticks along with *Bixa orellana* as colouring agent .The prepared lipsticks were show excellent properties like shining, spreading and smoothness of lips. The research finding also provides a guideline on effects of ingredients towards the physical properties and consumer acceptance of the lipstick formulation

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