

## ECONOMICS

- Unit Set-up (Total establishment cost, max. 2 Lakhs)
    - Refluxing unit (50 Lt. cap., 01 No.)
    - Filtration unit with Vacuum pump (01)
    - Blending vessel (01)
  - Maximum Cost of Preparation per Lit. (Total Rs. 400/ Lit.)
    - Raw materials : Rs. 300
    - Other cost : Rs. 100  
(including labour, electric, packaging, transporting etc.)
  - Unit Capacity : 100 liter/day (single shift)
  - Building : 5 Lakhs
  - Equipment & Installation : 2 Lakhs
  - Monthly income : Rs. 0.25 Lakh
- (\*Cost of raw materials may change with market fluctuations)

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# Lac Dye based Natural Alta

A liquid cosmetics for feet decoration



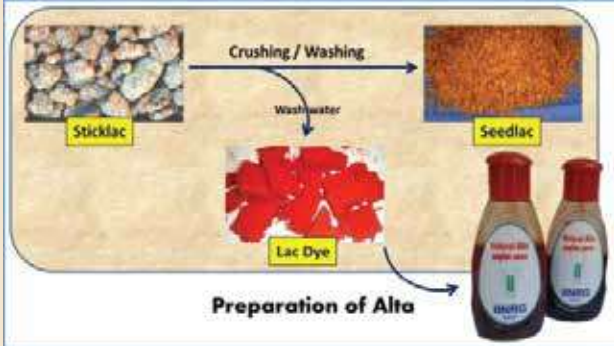
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Painting feminine toes in deep red Alta is a tradition of India. Alta is an important cosmetic used by Indian woman to decorate their feet especially during marriages and festivals.

Lac dye is red colored natural dye obtained as a byproduct during washing of stick-lac while preparing seed-lac. This lac dye is used for developing two different color formulations of natural Alta, IINRG-LDA-91 (Orange colored) and IINRG-LDA-94 (Deep red colored).



The color of lac dye in Alta is stabilized by addition of very low concentration of color augmenting agents. Addition of such agents impart different color shades and also increases color fastness.

Besides this, some skin caring ingredients which imparts moisturizing effect to the skin and natural antiseptic & antibiotic extract are added to the Alta formulations. These herbal supplements when mixed in the Alta makes it not only safe but also of medicinal value to the skin. The formulations prepared are quick drying which minimizes sticking of dust particles and permits quick recoats. Being semi-permanent in nature it is gentle to the skin and older films can be removed easily by thorough washing with soap or detergent for re-polishing.

Commercial Alta is produced mostly from synthetic dyes. The quality of these Alta available in market is generally unfit for the skin. Commercially prepared Alta mainly contains Rhodamine B (tetraethyl rhodamine), and/or azo dyes like Crocein Scarlet (CSM) and Solvent Yellow-3 which may contribute to the melanocytotoxicity or depigmentation of the skin. These dyes are also reported to act as skin and sense organ toxicant.



Depigmentation caused by commercial Alta

Natural Alta is not only a cosmetics but also has medicinal value because of added skin caring agents. This Alta is tested for acute dermal irritation in accordance with the standard procedure (OECD 404) and was found to have no irritation to the test animal's skin. The Draize test results showed that both red and orange Alta were safe for use. Further, the product was validated by a sensory evaluation among various lady volunteers as satisfactory. Being herbal and safe it can be applied to feet as well as on rear side of the hands.

Natural Alta (IINRG-LDA-91 and 94) developed at ICAR-NISA is a unique blend of beauty and safety, whereas in synthetic dyes safety is not guaranteed.



	Lac dye based Alta	Commercial Alta
1	It is made from Natural lac dye	Prepared by synthetic dyes and colors
2	During its preparation no toxic chemicals are used	Prepared from azo dyes and other contaminants
3	Natural Alta developed has medicinal value	Reported to cause depigmentation of skin after prolonged use
4	Supplementary skin caring agents cure the skin problem	Has adverse effect on skin
5	Moisturizes skin and is skin friendly	Not skin friendly
6	Available in two different colors, orange and deep red.	No color choice
7	Costlier due to relatively higher price of lac dye	Cheaper due to use of the industrial dyes
8	It is removed by thorough washing with soap or detergent.	The color persists and cannot be removed easily.