

Lac Culture

Ent-202

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LAC CULTURE

The art of rearing lack insects for the production of lac is called lac culture or lac cultivation.

Lac Insect

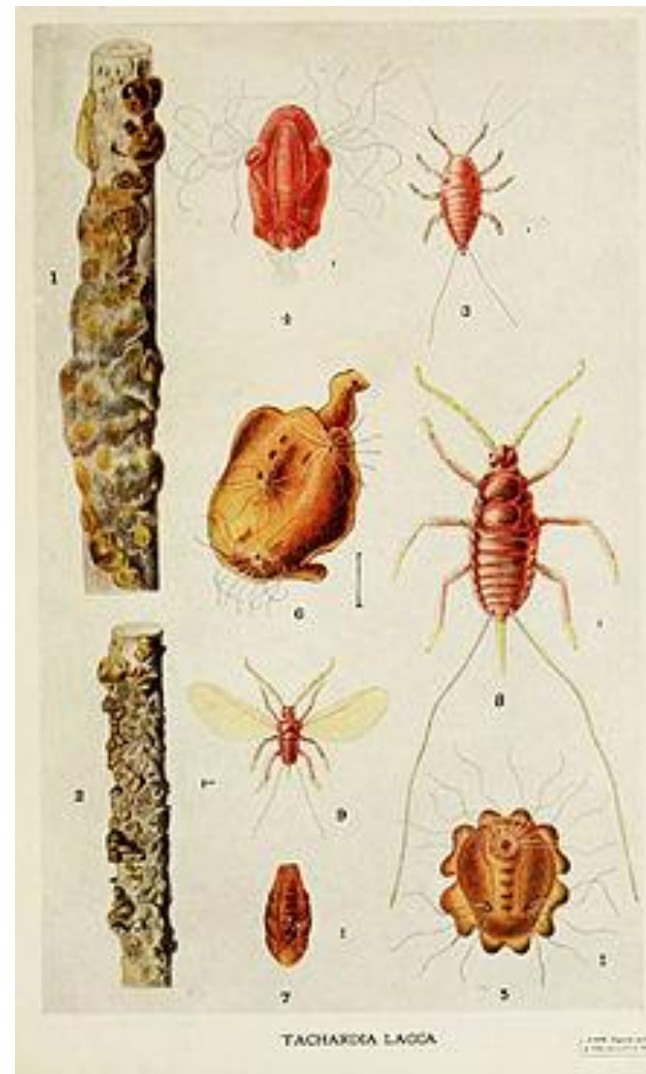
T.N. *Kerria lacquer*

(Kerridae; Homoptera)



BIOLOGY OF LAC INSECTS

- It has two broods i.e Kharif and Rabi.
- Total duration of kharif is 3 months
- Rabi is 8 months
- In 1 inch brood, there are 100-150 cells of lac insects and from one cell about 250 larvae emerge out.
- Duration of swarming period is 2 weeks in kharif and 3 weeks in rabi.
- Larvae are reddish-colored.
- They crawl on tree branches and then fix their stylets in tissue and suck sap.
- After second instar, it undergoes a pre-pupal stage, each of about 1 week duration.



ENVIROMENTAL REQUIREMENTS

1. Prefer to live at 25-37C, 50-70% Relative humidity.
2. Cultivation of lac in dry areas is not possible.
3. Sub-mountain of Punjab are best localities.
4. Thick forests are also good.



Host plants

- There are 77 host plants; but followings are successful

Ziziphus jujuba (Ber)

- Lac is of superior quality

Ficus spp. (Fig)

- Best specie is *Ficus carica*
- Lac – light weight but superior quality

Acacia arabica (Kiker)

- Lac – inferior quality
- In Hyderabad, it is most important host



Method of propagation

Inoculation:

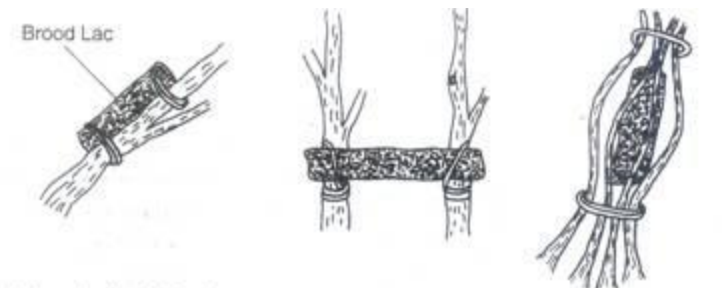
- The method by which the lac insects are introduced to the new lac host plant is known as inoculation.
- This may be of two types, namely “Natural infection” and “Artificial infection”.

1. Natural

- When infection from one plant to other occurs by natural movements of insect, it is called natural infection. - overcrowding of insect population and non availability of tender shoots on a particular tree.

2. Artificial

- Stick method
- 2-3 kg brood lac inoculated on each tree



(a) Longitudinal infection (b) Lateral infection (c) Interlaced infection

Fig. 37. Three different ways of artificial inoculation of lac.

Harvesting

- Harvesting of rabi crop in August
- Kharif crop in February
- Infested branches cut
- Lac scrapping
- Dried
- Stored



lac products

- Lac cut from the host plant is called as **“stick lac”**.
- Lac can be scraped from the twigs before or after the emergence of larvae.
- The scraping of lac from twig is done by knife, after which they should not be exposed to sun.
- The scraped lac is grinded in mills.
- The unnecessary materials are sorted out In order to remove the finer particles of dirt and colour, this lac is washed repeatedly with cold water.
- Now at this stage it is called as **“Seed lac”**
- Exposed to sun for drying. Seed lac is now subjected to the melting process.
- The melted lac is sieved through cloth and is given the final shape by molding.
- The final form of lac is called **“Shellac”**.

USES OF LAC

- The various applications of lac can be summarized as follows:
- Lac resin is used in food processing industry; cosmetics and toiletries industry; varnish and printing industry; coating of fruits and vegetables; electrical industry; leather industry; adhesive industry; pharmaceutical industry; perfumery industry
- Lac dye – as a skin cosmetic and dye for wool and silk.
- Lac is used in food, and beverages industry and textile industry.
- Lac wax is used in polishes for shoe, floor, car polishes etc.
- Lac is used for manufacture of tailors chinks, bottle sealers, lipsticks, printing inks

Enemies

For lac insect

- Fig wax scale – predator

Pests of host plant

- Fig borer – fig mite – ber beetle – mealybug – hairy caterpillar – leaf roller