

## Commercializable technologies of Institute

### A. Primary lac processing technologies (100kg/day)



Small Scale lac processing unit



Integrated lac processing unit

- Small Scale lac processing unit
- Integrated lac processing unit

### B. Value added products from lac

The Institute has developed and standardized process of making value added products like aleuritic acid, bleached lac, Dewaxed decolourised lac(DDL) and by-product lac dye suitable for their commercial production.



Aleuritic acid



Bleached lac



Dewaxed Decolorized lac



Lac dye

- Process of making aleuritic acid
- Process of making bleached lac
- Process of making Dewaxed decolorized lac
- Recovery of lac dye
- Process of making isoambrettolide

### C. Lac based paint, varnish and cosmetic products

Lac based natural paint, varnishes (spirit based and spiritless) and cosmetic products have been developed which are eco-friendly, natural and safe compared to synthetic based these products



Lac based nail polish



Lac dye based Alta



Interior coated with  
lac based paint



Lac based Wood  
varnishes

- Shellac Emulsion paint for Internal Coating
- Lac wood shine
- Non-spirit lac-based wood varnish
- Lac Glaze
- Air-drying and baking type insulating varnishes
- Aqueous Lac Varnishes for Earthenware and Bamboo based Articles
- Lac dye based natural Alta

#### D. Coating formulation for fruits, vegetables and spices (Kinnow, pomegranate, vegetables & seed spices)

Lac based coating formulation has been developed for fruits (kinnow, pomegranate), vegetables (tomato, Brinjal, Capsicum etc.) and spices (ginger, cumin, Coriander) for increasing post harvest life, appearance and keeping qualities.



Fruits, vegetable and spice (cumin) coated with lac based formulation

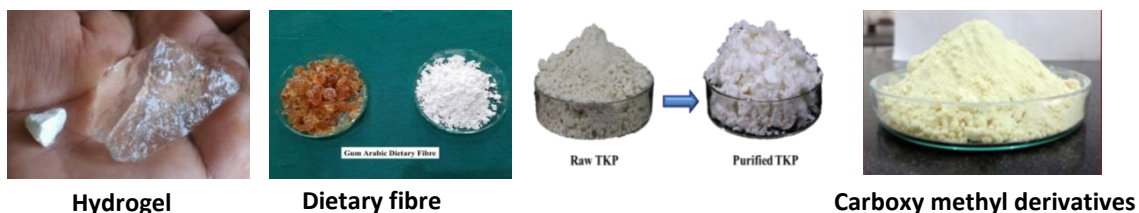
- Lac based fruit coating formulation for kinnow
- Lac-based coating formulations for pomegranate
- Lac based coating formulations for seed species
- Lac based coating formulation for ginger
- Lac based coating formulation for vegetables

#### E. Other miscellaneous lac based technnolgies

- Lac based multi-colour Dental plates
- Shellac Gasket compound
- Sealing lac
- Herbal *Gulal* from *Palas* Flower
- Utilization of gummy mass an industrial effluent from aleuritic acid
- Coating formulation for paper packaging material
- Coating formulation for Clayware
- Lac wax policosanol-based plant growth regulator

#### F. Natural gum based value added products

Different natural gums-based product and their process of preparation like guar gum based super absorbent hydrogel, cold water-soluble tamarind seed gum, dietary fiber from guar and arabic gum and guar gum derivatives have been developed for its production.



- Process for preparation of cold-water soluble tamarind seed gum
- Guar gum based superabsorbent hydrogels.
- *Acacia* and *Karaya* gum-based hydrogels
- Palas tannin-based crack cream
- Moringa gum-based crack cream
- Guar gum derivatives
- Dietary fiber from guar and arabic gum



**Fig. Different commercializable technologies of ICAR-IINRG, Ranchi**