

Waxes

- Waxes are simple lipids containing fatty acid joined to long chain alcohol
- They are esters of saturated long chain FA and long chain alcohol
- In plants they are coatings that prevent water loss by leaves.
- They are water insoluble soft solids with low melting point.
- They can be obtained from
 - Minerals
 - Paraffin
 - Plants
 - Carnuba
 - Cocoa butter
 - Insects
 - Beeswax
 - Animal
 - Spermaceti

Beeswax

- Beeswax is the purified wax obtained from honeycomb of hive bee, *Apis mellifera* Linn and other species.
- White beeswax is obtained by treating yellow beeswax chemically with potassium permanganate, chromic acid or chlorine or charcoal
- When cold, yellow wax is brittle and when broken, shows presence of a dull, granular, non-crystalline fracture.
- Yellow wax is insoluble in water and sparingly soluble in cold alcohol.
- It is completely soluble in chloroform, ether, and fixed or volatile oils, partly soluble in cold benzene or in carbon disulphide.

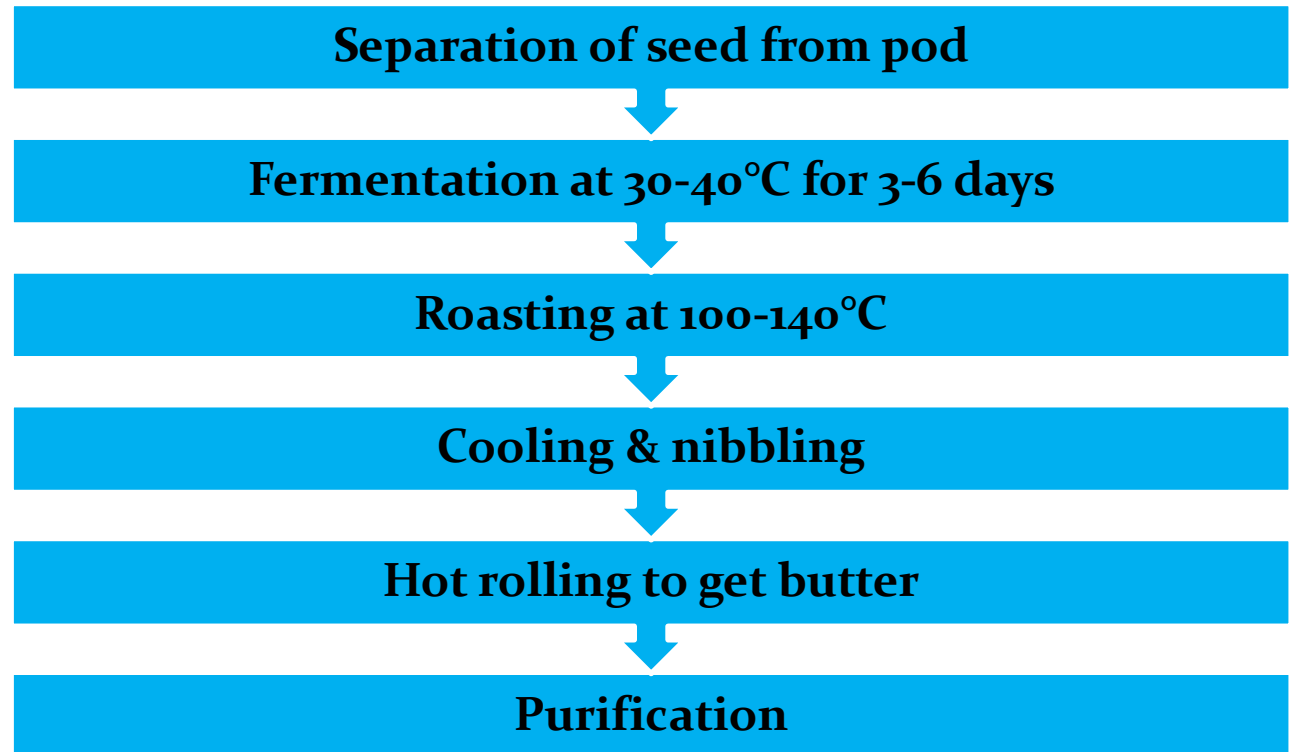
Beeswax...

- Beeswax contains
 - myricin, which is melissyl palmitate; melting point 64°C ,
 - Free cerotic acid ($\text{C}_{26}\text{H}_{52}\text{O}_2$),
 - Myricyl alcohol ($\text{C}_{30}\text{H}_{61}\text{OH}$)
 - Melissic acid, some unsaturated acids of the oleic series, ceryl alcohol, and 12 to 13% higher hydrocarbons are present.
- Beeswax is used in the preparation of ointments, plaster, and polishes.

Cocoa butter

- Synonyms: theobroma oil, cacao beans, semina theobromatis.
- obtained from roasted seeds of *Theobroma cacao* Linn.
- Cocoa seeds contain nearly 50% of cocoa butter.

preparation



Cocoa butter...

- Cocoa butter is yellowish white solid and brittle below 25°C.
- It has pleasant chocolate odour and taste.
- It is insoluble in water but soluble in organic solvents
- It has –
 - Specific gravity ranges from 0.858 to 0.864,
 - Mpt 30°C - 35°C,
 - Refractive index 1.4637 - 1.4578,
 - saponification value 188–195, and
 - Iodine value 35–40.

Cocoa butter...

Chemical Constituents

- Glycerides of stearic (34%), palmitic (25%), oleic (37%) acids, and small amount of linoleic acids and arachidic acid.
- Glyceride structure is responsible for non-greasiness of product.

Uses

- As an emollient, a base for suppositories, ointments, creams, and toilet soaps.
- It reduces the formation of stretch marks during pregnancy by keeping the skin supple.
- Used as an ingredient in lotion bars, lip balms, body butters, soaps, and belly balms for expectant mothers.

Carnauba wax

- exudate from pores of the leaves of the Brazilian wax-palm tree *Copernicia prunifera* and *C. cerifera*, (Palmae family)
- It is hard greenish solid wax with crystalline fracture.
- It has sharp characteristic odour and bland taste & soluble in fat solvents.
- It contains esters of hydroxylated fatty acids(carnaubic and cerotic acid) and melissyl cerotate.
- **Uses**
 - Preparation of cosmetic products, depilatories, and deodorant sticks.
 - Used for tablet coating.
 - Production of high-quality shoe polishes and automobile waxes

Paraffin wax

- It is a white/translucent, odorless, soft solid wax made from saturated hydrocarbons as a byproduct of lubricating oil refining.
- It is electrical insulator and lubricant
- It's often used in skin-softening in salons.
- It can also be used to provide pain relief to sore joints and muscles.

THANK YOU!