Papain and pectin from papaya

Pectin and Papain are chemical products having their use in pharmaceutical and fruit preservation industries. Pectin is used as a thickening agent in the preparation of emulsifying agent in the preparation of products like codliver oil, ice cream, mayonnaises etc.

**Process of Manufacturing:**

Preparation of Papain: Papaya fruit on the trees at a stage of maturity of about 3 months after setting are lanced. The latex is collected in trays. Latex coagulated on the fruit surface is scrapped and added to the batch. The collected latex is passed through a mesh stove to remove extraneous matter and then dried in a hot air drier or vacuum shelf drier. Vacuum dried product is packed in airtight containers and stored in a cool dry place. Average yield is about 0.25% of papain.

Preparation of Pectin: After the tapping period is over, the raw fruit is collected, washed in running cold water, cut into bits minced through a mesh above machine and steeped overnight in water containing sulphur dioxide. Next day the material is processed and extracted four times. After each extraction, the liquid is pressed through a hydraulic press and cooled immediately. The combined extract is adjust to PH 4 with Ammonia and clarified by centrifuging or decanting after leaving overnight. The pectin from extract is precipitated with 0.5% Aluminium chloride. 1% aluminium sulphate added in the form of 20% solution and again adjusting the PH & with ammonia. The precipitate of aluminium pectinate is separated over vibrating sieve and pressed in a basket press. The mother liquor is adjusted by adding ammonia and allowed to settle and further aluminium pectinate is separated as above. The combined aluminium pectinate is passed through a mincing machine and then dried. The batch of aluminium pectinate is then washed with alcohol, water and concentrated commercial HCL, pressed and dried.

**Raw Material, consumable and spares etc.:**

Latex, Insecticides/ fungicides Hydraulic acid, Alum, Liquor Ammonia, Caustic, Alcohol, Potassium bi-sulphate, Consumable & Packing Materials

**Machinery Equipment:**

1. Slicing Machine
2. Mincing Machine
3. Vibrating Sieves
4. Vacuum Self drier
5. Boiler
6. Filter Press
7. Cement Concrete Tank
Machinery Suppliers:

1. M/s Armstrong Smith Ltd.
   1, Sir PSM Road
   Bombay

   65/11 Rohtak Road
   New Delhi

3. M/s Raylon Metal Works
   J.B. Nagar, Andheri
   Bombay