

# **OSMO DRYING OF MANGO SLICES**

## **Introduction**

Osmo dried mango slice is a ready to eat product wherein sugar is incorporated into the mango pieces which makes the subsequent drying process less energy intensive and gives a good taste and texture to the finished product. This product has shelf life up to 8-10 months and has find varied application as it can be used in place of fresh fruits.

## **Salient features**

1. It is a concentrated fruit product with a good nutritive value,
2. It is in ready-to-eat form
3. The product has a good shelf-life.
4. The product has a ready internal market & promising export potential.

## **Market**

The demand for the processed products from mango in the global market is steadily increasing. Mango (*Mangifera indica*), is the most important fruit cultivated through out India. Alphonso, Badami, Mallika and Totapuri varieties can be successfully dehydrated as slices.

## **Raw material**

Mango, Sugar & Preservatives etc

## **Process**

Osmotic dehydration, a novel approach, involves two stages. In the first stage, water is removed from the fruit pieces by dipping in concentrated sugar syrup which not only improves the taste but also helps in reducing the moisture content of the pieces as seen by weight loss. In the second stage, the drained pieces are then dried in a hot vaccum drier to the desired moisture level.

## **Plant & Machinery**

Vacuum dryers, SS Kettles, Sealing Machine, autoclave, trolley, hand refractometer, boiler, sauce pans, syrup storage tank and colony counter.

**Project Cost – Fixed Cost – Working Capital (in Rs. ‘000)**  
**(Estimate for a model project)**

|    |  |                |
|----|--|----------------|
| a) | Land & Land development (500 m <sup>2</sup> ) (Rented) | 75.00          |
| b) | Building and civil works (75 m <sup>2</sup> )          | 225.00         |
| c) | Plant and machinery                                    | 1400.00        |
| d) | Miscellaneous fixed assets                             | 150.00         |
| e) | Pre-operative expenses                                 | 150.00         |
|    | Total fixed capital                                    | <b>2000.00</b> |
|    | Working capital margin                                 | 202.00         |
|    | Total Project cost                                     | <b>2202.00</b> |

**Means of finance**

|                          |         |
|--------------------------|---------|
| - Promoters contribution | 702.00  |
| - Term loan              | 1500.00 |

**PRODUCTION CAPACITY - (estimate)**

|  |                                       |
|--|---------------------------------------|
| Suggested economic capacity: 100 Kg/day of mango slices. |                                       |
| Working  | : 1 shift/day, 150 working days/ year |
| Capacity   | : 15 MT/ annum                        |

**TECHNOLOGY/MANUFACTURING PROCESS – Availability**

The technology for the manufacture of Osmo drying of mango slices has been developed at CFTRI, Mysore, using appropriate equipment for optimal product recovery of right quality. The CFTRI has the necessary expertise to provide technical assistance and guidance for setting up the project. The CFTRI can offer further technical assistance for project implementation under technical consultancy arrangements.

Note: CFTRI does not guarantee the performance of the machine. Indenter may kindly confirm the performance, etc., from the fabricator of the machine, before a decision is taken to purchase the same.