

Central Food Technological research Institute, Mysore – 570 020

Extension of shelf life of Minimally processed pomegranate arils

Introduction:

Consumer demand for convenient fresh products would be a driving force for the demand for fresh minimally processed fruits. The minimally processed pomegranate arils will have a good market potential in all metropolitan cities, in restaurants, airways, railways etc.

The production of minimally processed ready –to –eat fruits represents a big challenge, as cut fruits deteriorate faster than their intact counterpart, mainly due to the damage caused to cells and tissues by cutting and trimming, and to the removal of their natural protective skin.

Fresh-cut fruits is a convenient way to supply consumers with nutritive, healthy, and taste intact. Washed, bite size cut, and packaged fresh ready–to-eat fruit allows consumers to eat healthy food, and at the same time save time on food preparation. Availability of fresh-cut fruits in vending machines in schools and at work would constitute an excellent strategy to improve the nutritional quality of snacks and convenience foods in a time when obesity and nutrition-related illness affect large percentage of the population. However, short shelf life, and quality loss faced by fresh-cut fruits during storage severely shorten the reach of such approach: hence, it is pertinent to determine the best way to preserve minimally processed fruits, addressing all the previously mentioned factors promoting quality loss.

Raw material:

Packing and storage specifications:

Minimally processed fresh cut fruits should be packed properly using suitable packing material, aiming to protect the product from physical and microbiological hazards since their natural protector (the fruit skin) has been removed.

Pomegranates have to be fresh, without any spoilage and bruises. The arils should be separated from the fruit without damaging the arils.

Standards:

The pomegranates must be whole, sound, produce affected by rotting or deterioration to be excluded, should be free of pests and damage caused by them affecting the general appearance of the produce and free of sunburns affecting the arils of the fruit.

Plant and machinery:

Principal equipments: Spin dryer for fruits and vegetables, mixing tank, Cold room

Auxiliary equipments: Weighing scale, SS working tables, perforated SS drums, knives, sealing machines etc. Effluent Treatment Plant

Project cost – Fixed cost- Working capital (Estimate for a model project)

- Plant Capacity: 3.0 MT of Pomegranate per day
- Land and Building: Rs. 126 lakh
- Plant and Machinery: Rs. 56.00 lakh
- Preoperative expenses: Rs. 10.22 lakh
- Working capital: Rs. 21.22 lakh
- Total Project Cost: Rs. 214.18 lakh

Means of finance:

- Long-term loan @ 75% of Total security: Rs. 136.50
- Promoter's own share: Rs. 77.68
- Short – term loan from bank for WC: Rs. 38.74

Production capacity- (estimate)

- Product: Fresh pomegranate arils
- Working days: 200 days / annum
- Installed capacity: 3.0 MT of Pomegranate/day
- Optimum capacity utilization: Production capacity is estimated for 8 h of operation. Capacity be enhanced with the existing facility by extending operating hours to 16/24h.

For Technology and Technical assistance, please contact

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