

Minimally Processed Vegetables

Introduction

Preservation of vegetables is always a priority consideration of the Govt. of India. A lot of sponsored R & D work was carried out in the past. Minimally processed and packed vegetables are cost effective and technologically viable way of preservation. CFTRI over the last decade has exhaustively worked on this aspect to crystallize an adaptable technology, which has a potential for industrial adoption, effective storage life ranging from 10 - 60 days.

Market Potential

The demand for ready to cook and consume products is becoming more in recent times. Domestic market for these products is very high in the metropolitan cities like Delhi, Calcutta, Chennai, Mumbai, where large number of women is employed. The normal vending outlets added with cold chain can sell the minimally processed and packed products. Minimally processed vegetables have the following advantages:

- ❖ Maintains freshness and quality
- ❖ Render vegetables in convenient and "Ready-to-cook form".
- ❖ Bulk reduction for better storage, easy transportation and packaging
- ❖ Extends shelf-life by 3-5 folds
- ❖ Generates gainful employment at rural and urban level
- ❖ Boosts export of vegetables in minimally processed form
- ❖ Renders 60% value addition to vegetables in unit size consumer package
- ❖ Low cost technology without involvement of sophisticated machinery

List of Minimally processed vegetables

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|-----------------|--------------------|------------------|
| • Ash gourd | • Coriander leaves | • Mint leaves |
| • Beetroot | • Curry leaves | • Okra |
| • Beans | • Cucumber | • Onion |
| • Bittergourd | • Drumsticks | • Plantain |
| • Carrot | • Field beans | • Ridge gourd |
| • Cabbage | • Fenugreek leaves | • Snake gourd |
| • Cauliflower | • Green peas | • Spinach leaves |
| • Cluster beans | • Green chillies | • Tomato |
| • Coccinia | • Knol-khol | • Turnip |

Raw materials and Packing materials

The above vegetables can be minimally processed using the package of technology protocols standardized at CFTRI. The minimally processed vegetables are hygienically packed in flexible pouches and stored, handled and traded under low temperature conditions.

Principal Equipment

Preparation tables, Plastic crates, Washing units, peeler, Dicing and slicing machine of the required capacity, Pretreatment chamber, Hot air dryer, Pouch sealing machine, Modified atmosphere packaging (MAP) units, and Modular cold storage.

Project cost

Capacity: 2000 Kg per day	250 days operation/year
Project cost	Rs'000
1. Land and land development – 2500 Sq.M	75
2. Building and civil construction – 400 Sq.M	1000
3. Plant and machinery	3000
4. Auxiliary items	750
5. Other Fixed Assets	750
6. Pre-operative and Preliminary expense	150
7. Working capital margin	500
Total	6225

Production capacity:

Processing/day:	2000 Kg
Working:	250 days
Annual capacity:	500 MT

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.