

Preservation of vegetable chunks in tomato soup in Aluminium cans

INTRODUCTION

Preservation of foods by thermal processing is a conventional method being followed by food processing industries. However, the equipment used are either highly sophisticated with computer controls or of manual type without any controls or sometimes with only temperature control. This needs careful attention as even few minutes of over processing will affect the sensory qualities and if under processed, the product is not commercially sterile and the safety of such a product is not ensured. In view of this an on-line sterilization monitoring system has been developed. A few food products have been preserve during this on-line retort control system. These are ready-to-serve product thermally processed after packing in rigid container like easy to open flip top aluminium with suitable food grade lacquering.

USES

Vegetable chunks in tomato soup are an enriched soup product ready-to-eat. This product is ready to serve and can be used during travel, by defense personnel or during emergency ration with high nutrients and as similar to any convenience based specialty products. Though the soup products are available in the market, they are either dry powder form or in concentrate form. It does not contain vegetable chunks as compared to the present product, which enhances the organoleptic property and nutritional content of the product.

MARKETING

There are about 3000 small-scale units, engaged in the canning industry who can potential benefit from this technology. As of now, only multi-nationals and industries that can afford huge investment are processing, as they are cost prohibitive. The proposed technology development will help more entrepreneurs to diversify to this area, utilizing their existing system. This will popularize convenience products. Also, it has the potential to outreach to other international markets. For the consumer, ready-to-eat food of different varieties will be available off the shelf. All it would require is warming it directly within the container for serve temperature.

RAW MATERIAL

Tomato soup, Vegetables etc.

PROCESS

Process consists of mixing of vegetables (partial cooked) & tomato soup (prepared using standard protocol) then filled into the containers, sealed and sterilized. Sterilized cans are cooled to room temperature and stored.

PLANT & MACHINERY

Major equipments required are Retort fitted with online retort control system, Jacketed kettles, Can seamers, Double sieving machine, Boiler, Slicer/Dicer, Working tables etc.

PROJECT COST – FIXED COST – WORKING CAPITAL (in Rs. ‘000) (Estimate for a model project)

a) Land & Land development (625 m ²)	156.00
b) Building and civil works (440 m ²)	1764.00
c) Plant and machinery	2330.00
d) Auxiliary equipments	50.00
e) Miscellaneous fixed assets	150.00
f) Pre-operative expenses	458.00
Total fixed capital	4908.00
Working capital margin	2475.00
Total Project cost	7383.00

Means of finance

- Promoters contribution	3702.00
- Term loan	3681.00

PRODUCTION CAPACITY- (estimate)

Suggested economic capacity: 3000 Kg/day (10,000 cans with 300gm pack)

Working : 300 days/year

Capacity : 900 MT /annum

Optimum utilization capacity: 70%

TECHNOLOGY/MANUFACTURING PROCESS – Availability

The technology for the manufacture of Preservation of vegetable chunks in tomato soup in aluminium cans 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.