

CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE
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CANNED FRUITS AND VEGETABLES

INTRODUCTION

Fruits and vegetables have gained considerable commercial importance all over the World, contributing significantly to the economics of many countries including India. The method of preservation by heat treatment in closed containers (tins or glass bottles) to sterilize the contents is employed for commercial canning of fruits and vegetables. Being perishable and seasonal, there exist a great potential for preserved products to meet the demand of the off-season. India being a tropical country many varieties of fruits are grown namely mango, pineapple, grapes, litchi, papaya, oranges, cherries, apricot, peaches, pears plums, palsa, laquot, ber, passion fruit, jamun, strawberry, pomegranate, banana, etc. Vegetables like ladyfinger, potatoes, tomatoes, cabbage, cauliflower, mushrooms etc. are grown in our country and are potential raw materials for canning. Many canned fruit and vegetable products have already gained commercial importance both in domestic and export market.

The canned fruit and vegetable products of such commercial importance are: fruit slice/halves/cubes in syrup, fruit pulps and juices – natural and sweetened, fruit nectars, jams, jellies (preserves) and marmalades. Canned vegetables in brine (mushrooms, bendi etc.) and canned curried vegetables (ready to use)

RAW MATERIAL

There is no shortage of fruits and vegetables in India. India produces nearly 45 million MT of fruits and 85 million MT of vegetables per annum comprising of the following major items: **Fruits:** mango: var. Alphonso, Totapuri, Baneshan, Dasheri, guava: var. Allahabadi, banana: var. Pachabale, grapes, oranges, apples and others. **Vegetables:** potato, other tubers, tomato, onion, okra, Brinjal and others. The availability of these agricultural produces is in various seasons and production centers located at different parts of the country.

Other raw materials needed are sugar, citric acid, pectin, salt, spices, oil, etc. which are available easily. Packing and Packaging materials are to be procured in a scheduled manner from domestic suppliers and by import. The usual packing sizes of cans used are A-79 (5000 ml), A-10 (3000 ml), A 2½ (800 ml), A-1 Tall (425 ml) and 5.5-0z (170 ml).

PLANT AND MACHINERY

Principal equipments: Can reformer, can body flanger, can embossing, lid embossing press, can sealing machine, pulpers, SS jacketed kettles, spice grinder, retorts, gas stove heating system, exhaust box, etc.

Auxiliary equipments: Boiler, Stainless steel topped working tables, trolleys, weighing scale, Host for handling retort crates, plastic crates, wet grinder, etc.

PRODUCTION CAPACITY - (estimate)

1. Canned fruits pulp/juice	-	4 MT/shift/day (40 days)
2. Canned vegetables	-	2 MT/shift/day (20 days)
3. Jams, jellies & preserves	-	2 MT/shift/day (20 days)
4. Curried vegetables	-	1 MT/shift/day (20 days)

Note: By taking up export contract work, the working days can be doubled
Optimum capacity utilization: 70%

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

a)	Land & Land development (2500 m ²)	250.00
b)	Building & civil construction (300 m ²)	1500.00
c)	Plant and machinery	1500.00
d)	Miscellaneous fixed assets	450.00
e)	Preliminary and operative expenses	300.00
	Total Fixed Capital	4000.00
	Working capital margin	550.00
	Total Project cost	4550.00
	Total working capital required	2100.00

Means of Finance

- Promoter's contribution	1550.00
- Term loan	3000.00

TECHNOLOGY/MANUFACTURING PROCESS- Availability

CFTRI has standardized the process and procedures for canning of various fruits and vegetable products such as pulps, juices, slices in sugar syrup, jams, jellies, preserves, canned vegetables in brine, curried vegetables, etc. Quality control procedures are also suggested.

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.