

READY TO SERVE CURRIED VEGETABLES

PRODUCT CODE	: N.A.
QUALITY AND STANDARDS	: As per FPO Specification and PFA Act
PRODUCTION CAPACITY	: 600 MT Canned Curried Vegetables Value: Rs 300 Lakhs (per annum)
MONTH AND YEAR OF PREPARATION	: March, 2003
PREPARED BY	: Small Industries Service Institute Industrial Area-B, Ludhiana-141 003 Phone: 0161-531733-34-35 Tel. Fax: 0161-533225 E-mail: sisildh@1dh.nic.in

INTRODUCTION

Canned ready to serve curried vegetables such as Punjabi Chhole, Curried Rajmah, Palak Paneer, Mutter Paneer, etc. are very popular abroad particularly among the Indians settled there. These are consumed directly with Chapati or Rice after heating.

MARKET POTENTIAL

The growth rate of curried Indian vegetables is very good in international market due to increasing number of Indians residing in UK, USA, Middle East, and other countries. These days foreigners also prefer vegetarian foods and Indian curried vegetables. These products are mainly for export market. The products being for direct consumption can be distributed locally also at Hotels, Restaurants and Super Markets, etc.

BASIS AND PRESUMPTIONS

- (i) The project is based on single shift basis and 300 working days per annum.
- (ii) The rate of interest has been taken @15% on an average.
- (iii) Labour wages have been taken as per market rates.
- (iv) It is presumed that the unit will manufacture the product mix viz., Punjabi Chhole, Palak Paneer, Mutter Paneer, Curried Rajmah, Kashmiri Dum Aloo, etc. The above product mix may change according to, the markets as well as customers demand and orders in this regard.

IMPLEMENTATION SCHEDULE

The approximate time required for various activities is given below,

However, it may vary from place to place depending upon the local circumstances and on the enthusiasm of the entrepreneur:

Selection of the Site	1 Month
Registration as Small Scale Industry	1 Week
Project Report Preparation	1 Month
Availability of Finance	3 Months
Machinery Procurement, Erection, Commissioning and Trial Run, etc.	6 Months

TECHNICAL ASPECTS

Process of Manufacture

Fresh vegetables/Pulses, etc. are first washed thoroughly to remove dust, dirt stones, etc. The vegetables are sliced/cutted manually or mechanically. Potatoes/Carrots are peeled in peelers to remove the outer skins. Vegetables/Pulses are cooked together in a steam Jacketted Pan on one side and on the other side gravy for curried vegetables is prepared in a separate pan from chopped Tomatoes, Onions, Garlic, Butter, etc. Now both are mixed. The prepared curried vegetables and pulses are then filled into the pre sterilized cans. The cans are then exhausted, sealed, and processed. After this, the cans are cooled, wiped and labelled, etc.

Production Capacity

600 MT Canned Curried Vegetables per annum.

Value: Rs. 300 Lakhs.

Motive Power 50 HP

Pollution Control

The solid waste of the plant such as skins, pieces of vegetables and pulses

should be collected separately and put in the pits which may be used as manure later on. The water can be used for irrigation purposes after storage and sedimentation. No objection certificate may be obtained from the concerned State Pollution Control Board.

Quality Control and Standards

In general, the canned products should conform to the specifications laid down in FPO 1955, although item wise FPO Specifications are not available. ISO 9000/ISO14000 certificate would be necessary for European Markets. As the products are mainly for exports, strict hygienic conditions at each stage of operations are essential. PFA regulation is mandatory for food products.

Energy Conservation

As steam generation and distribution is involved, proper care should be taken to save heat loss due to leakage in the distribution pipe lines, etc.

FINANCIAL ASPECTS

A. Fixed Capital

i) Land and Building	Amount (In Rs.)
Land 2000 sq. mtr. @ Rs 350/sq. mtr.	7,00,000
Built up area which includes Main processing building 500 sq. mtr., Raw material storage 300 sq. mtr., Finished products storage 300 sq. mtr., Laboratory office 150 sq. mtr., and Boiler/Workshop 150 sq. mtr.	
Total 1400 Sq. mtr. @ Rs 1500 per sq. mtr.	21,00,000
Bore-well and fencing	5,00,000
Total Cost of Land and Building	33,00,000

ii) Plant and Machinery

Sl. No.	Description	Quantity (Nos.)	Price (Each)	Total (In Rs.)
1.	Preparation and filling tables 235 × 135 × 82 cm with Al Top	12	11,000	1,32,000
2.	Flattened can reforming unit consisting of: (a) Can reformer with rubber Rolled pulley (b) Hand flanger table model with Dies for 301, 401cm size	1	41,000	41,000
3.	Hand Flange rectifier with dies for 301 to 401 size cans	2	7,400	14,800
4.	Can Sealer table model automatic roller operation complete with chuck for A 2½ size	2	44,000	88,000
5.	Set of Can Tester with pressure gauge and hand pump	2	3,500	7,000
6.	Lid embossing machine with coding arrangement with one set of numeral from 1 to 9.	1	15,500	15,500
7.	Canning retorts for processing size 810 mm x 915 mm with dial thermometers, etc.	3	50,000	1,50,000
8.	Crates for canning retort	8	7,000	56,000
9.	Blancher	1	60,000	60,000
10.	Exhaust box with tunnel of 3962 mm with 2 HP motor	2	75,000	1,50,000
11.	S.S. Steam Jacketted Kettles 50 gallons capacity complete	4	32,000	1,28,000
12.	Semi automatic can seamer	1	80,000	80,000
13.	Mini Pulveriser with 5 HP motor	1	35,000	35,000
14.	Potato Peeler	1	30,000	30,000
15.	Power slicer with 1 HP motor to slice carrots Potatoes, Onion capacity 50 to 70 kg/hour	1	20,000	20,000
16.	SS Tank on Trolley for transporting peeled/Crushed material with push handles	2	13,000	26,000
17.	Trays of Aluminum size 16" × 14" × 4" with flaps for lifting	50	600	30,000
18.	Steam generator with motor, and water feeding pump	1	1,50,000	1,50,000
19.	Washing machine Rotary Rod washer equipped with spray arrangement, collection tank, etc.	1	60,000	60,000
20.	Pulper capacity 1.5 to 2 tonnes/hour	1	44,000	44,000
21.	S.S. Storage Tanks	4	20,000	80,000
			Total	13,97,300
	<i>Electrification and Installation Charges @ 10% of Cost of Plant and Machinery</i>			1,39,730
			Total	15,37,030
	- Misc. equipments such as Plastic bucket, Weighing balance, Concrete tank for cooling cans, Strapping machinery and Sorting conveyors, etc.		L.S.	3,50,000
	- Laboratory equipments		L.S.	50,000
	- Office Furniture and equipments		L.S.	1,00,000
	Total Cost of Plant and Machinery			20,37,030
	iii) Pre-operative Expenses			1,50,000
	Total Fixed Capital (i+ii+iii)			54,87,030

B. Working Capital (per month)

(i) Personnel

Sl. No.	Designation	Nos.	Salary (In Rs.)	Total (In Rs.)
1.	Production Manager	1	10,000	10,000
2.	Production Supervisor	2	6,000	12,000
3.	Export Manager	1	9,000	9,000
4.	Accountant	1	5,000	5,000
5.	Office Clerk	2	4,000	8,000
6.	Foreman	1	4,000	4,000
7.	Skilled Workers	5	2,500	12,500
8.	Un-Skilled Workers	10	2,000	20,000
9.	Peon	2	2,000	4,000
	Total			84,500
	<i>Perquisites @ 15%</i>			12,675
	Total			97,175

(ii) Raw Material	Total (In Rs.)
1. Different vegetables and pulses such as French Beans, Capsicum, Potato, Cauliflower, Carrot, Green Peas, Tomatoes, Onions, Garlic, Green Chillies, Spinach, Rajmah, White Chhole, Cream, Salt, Yogurt, Spices, Butter, Vegetable Oil, Paneer and other Misc. ingredients	L.S. 5,50,000
2. Cans A 2½ size 59000 @ Rs 14/can	8,26,000
3. Labelling and Packing cases for cans 4900@Rs 20/each	98,000
Total	14,74,000

(iii) Utilities	Total (In Rs.)
1. Power 50 HP 80% of 40×8×25 = 6400 KWH @ Rs 3/unit	19,200
2. Coal 50 M.T. Water from own bore well	1,00,000
Total	1,19,200

(iv) Other Contingent Expenses	Amount (In Rs.)
1. Postage and stationery	2,000
2. Telephone	2,000
3. Consumables	4,000
4. Repair and maintenance	2,000

(iv) Other Contingent Expenses	Amount (In Rs.)
5. Advertisement and publicity	1,00,000
6. Sales expenses	1,00,000
7. Miscellaneous expenses including transport	90,000
Total	3,00,000

(v) Working Capital (per month) (i+ii+iii+iv) 19,90,375

(vi) Working Capital (for 2 months) 39,80,750

C. Total Capital Investment

	Amount (In Rs.)
Fixed Capital	54,87,030
Working Capital for 2 months	39,80,750
Total	94,67,780

FINANCIAL ANALYSIS

(1) Cost of Production (per annum)	Amount (In Rs.)
1. Total recurring cost	2,38,84,500
2. Depreciation on building @8 percent	2,08,000
3. Depreciation on Machinery @ 10 percent	1,93,703
4. Depreciation on Furniture @ 20 percent	20,000
5. Interest on total investment @ 15 percent/annum	14,20,167
Total	2,57,26,370

(2) Turnover (per annum)	Amount (In Rs.)
By Sale of 600 MT of Canned Curried Vegetables at an average rate Rs. 50/kg	3,00,00,000

3. Net Profit (per annum) Rs. 42,73,630

4. Net Profit Ratio

$$= \frac{42,73,630 \times 100}{3,00,00,000}$$

$$= 14\%$$

5. Rate of Return

$$= \frac{42,73,630 \times 100}{94,67,780}$$

$$= 45\%$$

6. Break-even Point

i) Fixed Cost (per annum)	Amount (Rs.)
1. Depreciation on Machinery @ 10 percent	1,93,703
2. Depreciation on Furniture @ 20 percent	20,000
3. Interest on total investment	14,20,167
4. 40 percent of Salary and wages	4,66,440
5. 40 percent of Other expenses	14,40,000
Total	35,40,310

$$\begin{aligned}
 \text{B.E.P.} &= \frac{35,40,310 \times 100}{35,40,310 + 42,73,630} \\
 &= \frac{35,40,310 \times 100}{78,13,940} \\
 &= 45.3\%
 \end{aligned}$$

Addresses of Machinery Suppliers

1. M/s. Gardners Corporation
158, Golf Links,
New Delhi-110003
2. M/s. Techno Equipments
31 Parekh Street, Girgaon,
Mumbai-400 004
3. M/s. B.S. Berry and Co.
65/11, New Rohtak Road,
Karol Bagh,
New Delhi-110005

Raw Material Suppliers

Locally available.