PROJECT PROFILE

ON

TOMATO SAUCE AND KETCHUP
(WOMEN SHG ONLY)

Month & Year
Aug 2010

PREPARED BY

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TOMATO SAUCE AND KETCHUP
(WOMEN SHG ONLY)

1. Introduction

Tomato sauce and ketchup are commonly consumed commodities in every household. It is liked by one and all because of its sweet sour taste.

2. Market

The major market outlets are the " A" and "B" class stores. The product also finds placement in self service counters and departmental stores. Bakeries also sell tomato sauce and ketchup.

3. Packaging

Tomato sauce is bottled in 500 ml capacities.

4. Production capacity

- The plant will be in operation for one shift a day.
- The production capacity is estimated at 500 kilograms per day.
- The yield of tomato sauce will be 12500 kgs per month and 150 metric tonnes per annum
- The time period required for achieving full capacity utilisation is one year.

5. Sales revenue

- With an ex-factory selling price at Rs. 124 per kg the total sales realisation will be Rs. 186lakhs on full capacity utilisation.

6. Production process outline.

Ripe tomatoes are taken. Green and unripe tomatoes are discarded as it would discolour the final product. The tomatoes are first washed. Mere rinsing of tomatoes is not enough because mold filaments and other micro-organisms found in their cracks and wrinkle folds and stem cavities are not easily dislodged. After washing, the tomatoes are trimmed, cut into small pieces before boiling. The tomato pieces are boiled in their own juice in steam jacketed kettles for 3 to 5 minutes to facilitate pulping. The juice is extracted by passing the cooked tomatoes through a pulper. The juice normally contains solids at 5.66% and a specific gravity of 1.024.

The ketchup is prepared by concentrating the juice obtained from the pulper. Spices, salt, sugar, vinegar, onions, garlic etc. Are to be added to the extent it contains not less than 12% tomato solids and 28% total solids. The following recipe is used to manufacture ketchup:

Tomato juice - 30 litres; Onions chopped - 350 grams; Garlic chopped - 5 grams; Cloves whole - 10 grams; Cardamom - 4 grams; Black pepper - 5 grams; Cumin - 5 grams; Mace - 2.5 grams; Cinnamon - 18 grams; Vinegar - 750 ml; Sugar - 1200 grams; Salt - 310 grams; Red chillies - 12 grams.

The spices are loosely tied in a muslin bag and is placed in the juice and boiled till the desired consistency is obtained. Add sugar and salt to the vinegar and stir. Add the mix to the ketchup and stir thoroughly to form a homogenous mass.

When the ketchup has been cooked, it is passed through a sieve to remove any fibrous material or external contaminants. The ketchup should be bottled at 190 degrees Fahrenheit to prevent darkening of its colour and loss of vitamin contents during storage. On cooling, the ketchup shrinks in volume, producing thereby a high degree of vacuum in the bottle. Sometimes a black ring is formed on the surface of the ketchup bottle. This is known as “black neck”. It is because of the oxidation of the iron compounds which enter into the ketchup from the boiling equipment and from the metal of the cap through the action of acetic acid.

7. Quality specifications

- A certificate of approval for production has to be obtained under the Fruit Products Order (FPO)
- Minimum total soluble solids - 28%.
- Minimum acidity as acetic acid - 1.2%
- Minimum tomato solids - 12%
- Mold and fungal growth - absent.
- Yeast and spores - minimal
- Total plate count - 1,00,000 per gram (maximum).

- Tomato Sauce and Ketchup shall not contain tartaric acid, agar or gelatin.
- It should be free from any fermented odour, coliforms, salmonella and streptococci bacteria.
- It can contain permitted flavours , colours and preservatives.

8. Pollution control measures

Not necessary as there are no pollutants or effluents. However, the peel and seeds of fruits processed have to be disposed off carefully failing which it could pollute the surrounding areas on fermentation, yielding a foul odour.

9. Energy conservation measures

Common measures will do.

10. Land and construction cost for the proposed unit

The proposed unit is to be set up in a leased area. The total area required is 2000 square feet as described below:

Sl	Description	Sq. feet
1	Processing area	600
2	Raw material store	200
3	Packing material store	200
4	Finished goods store	200
5	Laboratory	100
6	Baby boiler area	200
7	Machinery spares room	100
8	Office	100
9	Toilets	100
10	Miscellaneous space	200
11	**Total**	**2000**

Lease rent – Rs. 6.00 per square foot
Total rent per month – Rs. 12000
Lease advance – Rs. 60000

11. *Costing of machinery and equipment*

Sl	Description	Rs. lakhs
1	Fruit washing tank	0.100
2	Juice extractor or pulper	0.750
3	Steam jacketed kettle	0.750
4	Stirrer, motor etc	0.250
5	Bottle washing machine	0.206
6	Stainless steel working tables	0.667
7	Baby boiler and accessories	1.250
8	Working tools	0.100
9	**Total**	**4.073**
10	Laboratory equipment	0.500
11	**Grand total machinery and equipment**	**4.573**

12. *Project cost*

Sl	Description	Rs. lakhs
1	Land	On lease
2	Civil works	On lease
3	Plant machinery	4.073
4	Laboratory equipment	0.500
5	Transport vehicle (Tata Ace)	3.760
6	Pollution control equipment	0.000
7	Energy conservation equipment	0.000
8	Cost of power connection	0.250
9	Cost of electrification	0.350
10	Erection and commissioning	0.450
11	Cost of machinery spares	0.200
12	Cost of office equipment	1.000
13	Deposits if any	0.400
14	Company formation expenses	0.100
15	Gestation period expenses	0.500
16	Sales tax registration expenses	0.100
17	Initial advertisement and publicity	10.000
18	Contingencies	0.150
19	Working capital margin money	5.552
20	**Total**	**27.385**

13. Working capital requirements per month

a. Salaries and wages

Sl	Description	No of persons	Total salary / month (Rs. lakhs)
1	Production Supervisor (female)	1	0.150
2	Chemist (female)	1	0.100
3	Skilled workers	1	0.060
4	Unskilled workers	3	0.090
5	Packing workers	2	0.060
6	Van driver	1	0.060
7	Administrative staff	1	0.100
8	**Total**	**10**	**0.620**

b. Raw material requirement per month

Sl	Description	Qty (kgs)	Rate / kg (Rs)	Value (Rs. lakhs)
1	Tomatoes	100,000	8.00	8.000
2	Sugar	600	24.00	0.144
3	Vinegar, salt, spices	1280	50.00	0.640
4	Colours, preservatives	25	200	0.050
5	**Total raw material**			**8.834**

c. Packaging material requirement per month

Sl	Description	Qty	Rate / unit Rs)	Value (Rs. lakhs)
1	Primary packaging material – glass bottles of 500 ml capacity	25500 nos	4.00	1.020
2	Cartons and straps	1070 nos	40	0.428
3	**Total**			**1.448**

Total raw + packaging material = Rs. 10.282 lakhs

d. Utilities per month

Sl	Description	Rs. lakhs
1	Power 1000 kwh @ Rs. 5.500 per unit	0.055
2	Water	0.050
3	Boiler fuel	0.250
4	**Total utilities**	**0.355**

e. Contingent expenses per month

Sl	Description	Rs. lakhs
1	Rent for processing shed	0.120
2	Postage and stationery	0.010
3	Telephones, fax etc.	0.050
4	Consumable stores	0.020
5	Repairs and maintenance	0.029
6	Local transports, loading and unloading	0.100
7	Advertisement and publicity @ 5% of sales	0.875
8	Insurance	0.018
9	Sales expenses @ 1% of sales	0.175
10	Miscellaneous expenses @ 1% of sales	0.175
11	Trade incentives @ 2% of sales	0.350
12	Taxes @ 4%	0.700
13	**Total contingent expenses**	**2.622**

f. Total working capital requirement per month

Sl	Description	Rs. lakhs
1	Salaries and wages	0.620
2	Raw material and packaging material	10.282
3	Utilities	0.355
4	Contingent expenses	2.622
5	**Total**	**13.879**

14. Means of finance

Sl	Description	Rs. lakhs
1	Total Project Cost	27.385
2	Equity	9.037
3	Debt	18.348

4	Working capital margin money	5.552

15. Financial analysis

Sl	Description	Rs. lakhs
1	Total recurring cost per year	166.548
2	Depreciation on land and building	0.000
3	Depreciation on machinery and vehicle	0.840
4	Depreciation on furnaces	0.000
5	Depreciation on moulds and fixtures	0.020
6	Depreciation on office equipment	0.100
7	Interest on long term loan @ 13.5%	2.477
8	Interest on short term borrowings@ 13.5%	1.124
9	**Total cost of production**	**171.109**

16. Turnover per year

Sl	Item	Qty	Rate/unit (Rs)	Total Rs. lakhs
1	**Tomato sauce**	**150,000 kgs**	**124**	**186**

17. Viability analysis

Sl	Description	Value
1	Net profit before income tax (Rs. lakhs)	14.891
2	Net profit ratio	8.0%
3	Internal rate of return	28.2%
4	Break even percentage	56%
5	Debt service coverage ratio	1.984

Tomato Sauce, Ketchups and Purees

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2. Agaram Industries, 126, Nelson Road, aminjikarai, Chennai, 600029, ; Tel: 044-23741413; Fax: 044-23741529
3. Royal Scientific Industries, T.S.74A, SIDCO Industrial Estate, Ekkatuthangal, Chennai. 600097., Tel: 044-22254749
4. Navinchandra and Co., 308, Thambu Chetty Street, Chennai. 600001; Tel: 044-25228675

5. Heat and Control (S) Pvt. Ltd.,E-2, 3rd Avenue, Anna Nagar, East, Chennai. 600102., Tel: 044-26212943