

FISH PICKLE

PRODUCT CODE	: 203302001 (Processed Fish)
QUALITY AND STANDARDS	: As per P.F.A. Act and F.P.O.
PRODUCTION CAPACITY	: Quantity (per year): 120 M.T. Value : Rs. 240 Lakhs
MONTH AND YEAR OF PREPARATION	: March, 2003
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INTRODUCTION

Fish/Prawn pickle, when carefully prepared under most hygienic conditions with addition of required quantity of salt, preservatives and spices will have generally an average shelf life of one year. Most of the sea fish like Prawn, Tuna, Pomfret, Mackerel, etc. are ideally suitable for making fish pickles.

MARKET POTENTIAL

Like vegetable pickles, fish pickle has also gained popularity in the recent past. The demand for these types of ready-to-serve fishery products is increasing day by day among the non-vegetarian population in our country. The Defence Purchase Department of the Government of India also requires a sizeable quantity of processed fish products for supplying to the various Departmental Canteens and Officers Mess Establishments. There

is a good demand for fish/prawn pickle in foreign countries also.

BASIS AND PRESUMPTIONS

- | | |
|---------------------------------|--|
| 1 Efficiency of the plant | : 90% |
| 2 No. of shifts working | : One and half. |
| 3 No. of days working in a year | : 300 |
| 4 Rate of interest on loan | : 15% |
| 5 Repayment period | : 4-6 years. |
| 6 Margin money | : 30% |
| 7 Labour and wages | : As per the prevailing rates in the area. |

IMPLEMENTATION SCHEDULE

<i>Activity</i>	<i>Duration</i>
1 Project report preparation	1 month

<i>Activity</i>	<i>Duration</i>		
		Ascorbic acid	0.020
2 SSI registration	15 days	Sodium benzoate	0.025
3 Acquisition of land	1 month		11 Kg
4 Finance assistance	3 months		
5 Construction of building	3 months	<i>Blanching</i>	
6 Acquisition of machinery	2 months	Fresh prawns are peeled, deveined and washed. They are then blanched in 6% salt solution containing 0.02% citric acid at 100 deg. C for 12 to 15 minutes. These are then drained and cooled.	
7 Arrangement of power and water	1 month		
8 Installation of machinery	15 days	<i>Selection and Preparation of Ingredients</i>	
9 Appointment of staff	1 month	Select fresh garlic, peel and cut longitudinally. Fresh green chillies after removing the stalks are cut longitudinally retaining their seeds. Asafoetida is ground and made into a solution with distilled water or vinegar. Fresh lemons are washed and cut into 8 to 10 pieces of uniform sizes. Fresh ginger after cleaning is cut into small pieces. Fenugreek is fried and powdered.	
10 Trial production	15 days		
11 Problems shooting	15 days		
12 Commercial production	15 days		

Total time for commencement of Project is about 12-15 months.

TECHNICAL ASPECTS

Process of Manufacture

Recipes for the manufacture of fish pickle and prawn pickle along with process outline are given below:

<i>a) Prawn Pickle Recipe</i>	<i>Kg.</i>
Prawn (blanched)	6.250
Salt	1.250
Chilli powder	0.800
Groundnut oil	1.250
Turmeric powder	0.250
Asafoetida	0.250
Garlic	0.500
Mustard powder	0.100
Acetic acid	0.080
Lemon pieces	0.100
Green chilli	0.050
White pepper powder	0.100
Fenugreek	0.025
Ginger	0.200

Mixing

Heat oil to 180 deg.C. Add mustard and fry for 2 minutes. Garlic, green chilli and lemon pieces are added one after another and are stirred well for 3 minutes. Add salt powder and mix well and heat for 2 minutes. Ginger pieces and asafoetida solution are then added and mixed. Red chilli, white pepper and turmeric powders are added, mixed and heated for 2 minutes. Vinegar is also added immediately. When there is a separation of liquid portion in the heated product by the addition of vinegar, blanched prawns are added slowly and mixed well. Quantity of gravy can be increased by addition of 2 to 3% blanched solution containing salt and citric acid. After heating the product at 100 deg.C for 3 minutes, it is cooled till

the temperature comes down to 60 deg.C. Add required quantity of ascorbic acid and sodium benzoate. They are then packed in air tight sterilized bottles.

b) Fish Pickle Recipe

Cleaned fish	5 kg.
Onion	2 kg.
Garlic	250 gms.
Mustard	30 gms.
Green ginger	250 gms.
Vinegar	600 ml.
Gingelly oil	2 kg.
Cumin, cloves, cinnamon, nutmeg, Black pepper, chilli powder, turmeric and salt.	25 gms.

Process

Fish is cut into pieces and cleaned with potable water. The cleaned pieces are mixed with small quantities of salt, chilli powder, turmeric and kept for 2 hours. The pieces are fried in oil till these are brown in colour. Onion, garlic and ginger is ground well into paste and fried till it is light brown in colour. Add vinegar and make the mixture soft. Add balance quantity of salt, chilly powder and turmeric powder to the mixture and heat it till the whole vinegar is absorbed in the fish. After removing from the fire add ground spices, cool and add required quantity of preservatives. They are then packed in bottles. More hot oil can be added to cover the pieces. The bottles are then sealed air tight.

Quality Control and Standards

As per PFA Act and F.P.O.

Production Capacity

120 M.T. valued at Rs. 240.00 lakhs (per annum).

Motive Power 10 HP

Pollution Control

No major pollution effluent as water is only used for washing purposes. However, a battery of tanks of preliminary treatment are advised to be installed and no objection certificate may be obtained from the concerned State Pollution Control Board.

Energy Conservation

Only power is used, hence correct HP motors should be used with machine.

FINANCIAL ASPECTS

A. Fixed Capital

i) Land and Building	Amount (In Rs.)	
Land: 5000 sq. mtr. @ Rs. 50 per sq. mtr.	2,50,000	
Building	Size (in ft.)	Area in (sq. ft.)
1. Production Hall	50×40	2,000
2. Stores 3 (each)	20×20	1,200
3. Laboratory	20×10	200
4. Office	20×20	400
5. Lavatory and bath	10×10	100
6. Watchman cabin	10×10	100
	Total	4,000
	@Rs. 300 per sq. ft.	Rs. 12,00,000
Total Land & Building	Rs. 14,50,000	

ii) Machinery and Equipment

Sl. No.	Description	Qty.	Amount (In Rs.)
1.	Bottle washing machine	1 No.	20,000

Sl. No.	Description	Qty.	Amount (In Rs.)
2.	Pilfer proof cap sealing machine-table model with automatic sealing and threading operation	1 No.	20,000
3.	Counter scales balances 25 kg. Cap.	3 Nos.	15,000
4.	Frying pans, wash basins, storage vessels, ladles, mugs etc.		25,000
5.	Heating arrangements (Kerosene stove gas)		10,000
6.	Working tables with aluminium tops	3 Nos.	15,000
7.	Stainless steel knives, trays and miscellaneous items		10,000
8.	Pulveriser or grinder		35,000
9.	Weighing machine platform type		25,000
10.	Packing machinery	2 sets	15,000
11.	Lab and pollution control equipments		50,000
	Total		2,40,000
	<i>Erection and Electrification @ 10% of cost of Machinery and Equipment</i>		24,000
	<i>Office furniture and fixtures</i>		50,000
	<i>LDPE, Drums, Cap. 100 kg. 100 nos.</i>		50,000
	Total		3,64,000
iii)	Pre-operative Expenses such as Consultancy Fee, Project Report Fee, Deposit to Electricity Department etc.		50,000
	Total Fixed Capital (i+ii+iii)		18,64,000

B. Working Capital (per month)

i) Personnel

Sl. No.	Designation	No.	Salary (In Rs.)	Total (In Rs.)
<i>a) Administration Staff</i>				
1.	Factory Manager	1	10,000	10,000
2.	Accountant	1	5,000	5,000
3.	Salesman	2	3,000	6,000
4.	Storekeeper	1	3,000	3,000

Sl. No.	Designation	No.	Salary (In Rs.)	Total (In Rs.)
5.	Clerk	2	3,000	6,000
6.	Watchman and Peon	2	2,000	4,000
<i>b) Technical Staff</i>				
1.	Production Chemist	1	8,000	8,000
2.	Skilled workers	3	3,000	9,000
3.	Semi-skilled workers	4	2,000	8,000
4.	Lab Chemist	1	4,000	4,000
	Total	18		63,000
	<i>Perquisites @ 10%</i>			6,300
	Total			69,300

ii)	Raw Materials including Packaging Requirements	Amount (In Rs.)
1.	Raw fish - 15,000 kg. @ Rs. 90 per kg.	13,50,000
2.	Spices, oil etc.	1,50,000
3.	Polythene bags, glass, bottles etc. @ Rs. 10 per kg. of pickles	1,00,000
	Total	16,00,000

iii)	Utilities	Amount (In Rs.)
1.	Electricity 1000 units @ Rs. 5 per unit	5,000
2.	Water	500
3.	Oil and Grease	500
	Total	6,000

iv)	Other Contingent Expenses	Amount (In Rs.)
1.	Repairs and maintenance	1,000
2.	Consumable stores	1,000
3.	Transport and travelling	5,000
4.	Publicity	5,000
5.	Postage and Stationery	500
6.	Telephone	1,500
7.	Insurance	500
8.	Miscellaneous	500
	Total	15,000

v) Total Working Capital (for 1 month)
(i) + (ii) + (iii) + (iv) 16,90,300

vi) Working Capital for 3 months 50,70,900

C. Total Capital Investment

	Amount (In Rs.)
i) Fixed capital	18,64,000
ii) Working capital for 3 months	50,70,900
Total	69,34,900

FINANCIAL ANALYSIS

1. Cost of Production (per annum)	Total (Rs. in lakhs)
i) Recurring expenses	202.80
ii) Depreciation on building @ 5%	0.60
iii) Depreciation on machinery @ 10%	0.26
iv) Depreciation on furniture @ 20%	0.10
v) Interest on total capital investment @ 15%	10.40
Total	214.16

2. Turnover (per annum)

Particulars	Qty.	Rate (In lakhs)	Total (Rs. in lakhs)
i) Fish pickle	60 MT	1.50	90.00
ii) Prawn pickle	60 MT	2.50	150.00
Total			240.00

3. Net Profit (per annum) (Before Tax)

$$\begin{aligned}
 &= \text{Sales} - \text{Cost of production} \\
 &= \text{Rs. } 240.00 - \text{Rs. } 214.16 \text{ lakhs} \\
 &= \text{Rs. } 25.84 \text{ lakhs}
 \end{aligned}$$

4. Net Profit Ratio

$$\begin{aligned}
 &= \frac{\text{Net Profit} \times 100}{\text{Sales}} \\
 &= \frac{25.84 \times 100}{240.00} \\
 &= 10.8\%
 \end{aligned}$$

5. Rate of Return

$$\begin{aligned}
 &= \frac{\text{Net Profit} \times 100}{\text{Capital investment}} \\
 &= \frac{25.84 \times 100}{69.35} \\
 &= 37\%
 \end{aligned}$$

6. Break-even Point

$$= \frac{\text{Annual Fixed Cost} \times 100}{\text{Annual Fixed Cost} + \text{Profit}}$$

Fixed Cost	Amount (Rs. in Lakhs)
A.F.C.= All Depreciation	0.96
Interest	10.40
40% (Salary and Wages, Utilities and Contingencies except Insurance)	4.31
Insurance	0.06
Total	15.73

$$\begin{aligned}
 \text{B.E.P.} &= \frac{15.73 \times 100}{15.73 + 25.84} \\
 &= 37.8\%
 \end{aligned}$$

Addresses of Machinery Suppliers

1. M/s. Gardners Corporation
6, Doctors Lane,
New Delhi - 110 001.
2. M/s. T. Ali Mohammad and Co.
144-146 Sarang Street,
Mumbai.
3. M/s. Bhuvaneshwari and Co.
No. 36, 28th Cross, 10th Main,
2nd Stage,
Bangalore - 10.

Addresses of Raw Material Suppliers

a) Bottles

1. M/s. Borosil Glass Works Ltd.
23/24 Second Lane Beach,
Chennai-1.
2. M/s. Alambic Glass Industries Ltd.
White Field,
Bangalore - 560 066.
3. M/s. Mysore Crystal Glass Works
Bangalore - 560 045,

b) Caps

1. M/s. Metal Box Co. Ltd.
17, Parliament Street,
New Delhi - 110 001.
2. M/s. Premier Caps and Co.
Cochin - 19.
3. M/s. Indian Aluminium Co. Ltd.
Air India Building.,
Mumbai - 1.

Other Raw Materials are locally available.