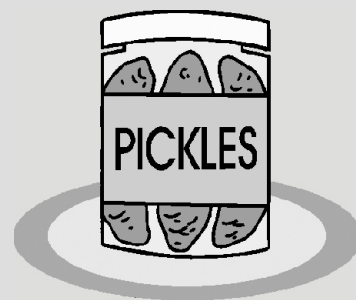


# INSTANT PICKLE MIXES



## 1.0 INTRODUCTION

Pickling is the process by which fresh fruits and vegetables are preserved and with the addition of salt, chilly and spices, a tasty preparation known as "Pickles" is made. Pickles are also good appetizers and digestive agents. There are several varieties of pickles and they are consumed throughout the year by people from all walks of life. Unimaginable quantities of pickles are consumed round the year. On an average, each family consumes about 2 kgs. of pickles every year. Sensing this potential, CFTRI has successfully developed and standardised a process of making instant pickle mixes. With addition of oil and water, fresh pickles can be made from these mixes.

## 2.0 PRODUCT

### 2.1 Applications

Instant pickle mix is a dry mix which can be converted to pickle with the addition of water and edible oil in the required quantity in about 8-9 hours. Thus, this product is easy to pack, handle and transport. Presently this technology has been developed for mango and lime. This project can be set up in any part of the country but this note considers Meghalaya as the location.

### 2.2 Availability of technology, quality standard and Compliances

CFTRI, Mysore, has developed the know-how. The quality standard as specified by BIS is IS 3500/01:1966. Certification under the FPO and PFA Act is necessary.

### 3.0 MARKET POTENTIAL

#### 3.1 Demand and Supply

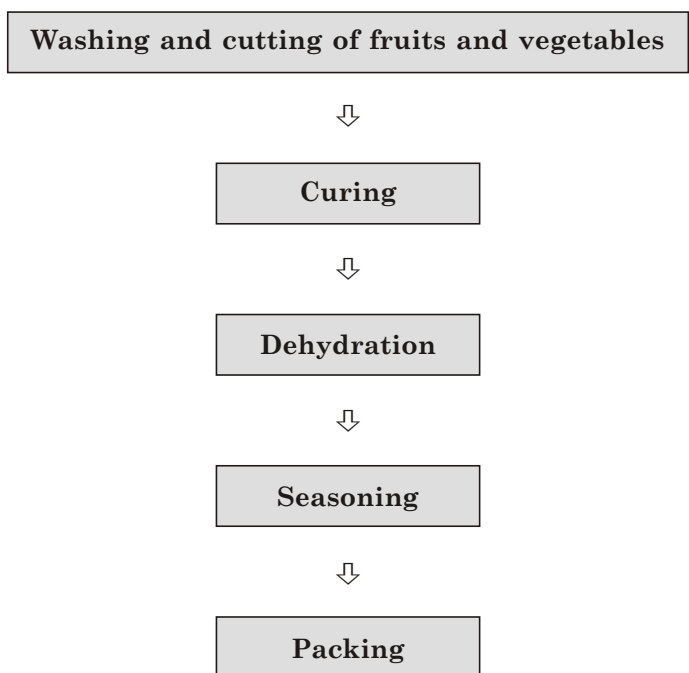
This is a comparatively new concept and the promoters should have the required background and expertise. Marketing would involve selling of concept at least initially. Proper market research has to be carried out before finalising the project.

#### 3.2 Marketing Strategy

This concept would appeal to many consumers especially the urban and semi-urban middle, upper middle class and rich families. Apart from neat and clean product and hassle-free packing, the consumers can have different varieties at different times without bothering about storage of many varieties of ready pickles. Restaurants, small eateries and road-side dhabas would also prefer it as they need not store their requirements for a longer period, savings in investments and storage space and cleanliness. Thus, product would certainly appeal to certain segments of consumers and they need to be approached for market analysis. Initial publicity and placement of products must be planned systematically. A combination of consumer packing and bulk packing may also be thought of.

### 4.0 MANUFACTURING PROCESS

Fully grown and fresh raw mangoes, lemons and other fruits and vegetables are washed in water and then cut into the required sizes. Then they are cured by brining them for about 7-8 hours and are dehydrated in dryer. Simultaneously dry spices like red chillies, turmeric, mustard etc. are grounded separately and are mixed with cured and dried pieces of mangoes, lemons or other fruits and vegetables. Finally, they are packed in polythene bags as per pre-determined quantity (sales-mix) and sealed. Weight loss due to dehydration would be in the range of 10% to 15%. The consumer has to soak this dry mix with the suggested quantity of water and oil for around 8 hours and the pickle is ready. The process flow chart is as under:



## 5.0 CAPITAL INPUTS

### 5.1 Land and Building

A readymade shed of around 60 sq.mtrs be bought to save on capital cost of land. This may cost Rs. 1.50 lacs. Production area would need around 30 sq.mtrs. and storage and packing area would occupy the remaining space.

### 5.2 Plant and Machinery

Proposed production capacity would determine the requirement of machines. Assuming rated capacity of 30 tons per year with 300 working days and 2 shifts per day, following machines are suggested:

Item	Qty.	Price (Rs.)
Electrically Operated Tray-dryer with 48 trays	1	75,000
Spice Grinding Mill	1	30,000
Frying Pans, SS knives and cutters, SS utensils, etc.	--	20,000
Weighing-scales and Heat sealing machines	--	20,000
	<b>Total</b>	<b>1,45,000</b>

### 5.3 Miscellaneous Assets

Some other assets like furniture and fixtures, plastic crates & tubs, working tables, storage racks etc. shall also be required for which a provision of Rs. 40,000/- is adequate.

### 5.4 Utilities

Power requirement shall be 15 HP whereas per day water requirement shall be 550-600 ltrs. for washing of fruits or vegetables and for potable and sanitation purposes.

### 5.5 Raw and Packing Materials

Many materials like raw mangoes, lemons, green chillies, carrots etc. shall be required. Since except green chillies and lemons, all other products are available only during certain seasons, they should be cured and dehydrated during the season and stored properly for use during off-season. Dry spices like red chillies, turmeric, mustard etc. are available round the year and quantity required is also very small. Printed polythene bags will be required for packing for which proper arrangement has to be made.

## 6.0 Manpower Requirements

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Workers	1	2,250	2,250
Helpers	3	1,250	3,750
Salesman	1	2,500	2,500
		<b>Total</b>	<b>8,500</b>

## 7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	1.5
Site selection and commencement of civil work	0.5
Completion of civil work and placement of orders for machinery	1.5
Erection, installation and trial runs	0.5

## 8.0 DETAILS OF THE PROPOSED PROJECT

### 8.1 Land and Building

As explained earlier, a readymade shed of around 60 sq.mtrs. would cost approximately Rs. 1.50 lacs.

### 8.2 Machinery

Machines worth Rs.1.45 lacs shall be needed as spelt out earlier.

### 8.3 Miscellaneous Assets

A provision of Rs.40, 000/- is adequate as mentioned before.

### 8.4 Preliminary & Pre-operative Expenses

Many expenses shall have to be incurred prior to commercial production like market survey, registration, establishment and administrative expenses, trial run expenses, interest during implementation, travelling etc. A provision of Rs. 65,000/- should be adequate.

### 8.5 Working Capital Requirements

Capacity utilisation in the first year is assumed to be 50%. To achieve this level, following working funds will be needed:

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Finished Goods	1 Month	25%	0.60	0.45	0.15
Receivables	1 Month	25%	0.88	0.66	0.22
Working Expenses	1 Month	100%	0.30	--	0.30
		<b>Total</b>	<b>1.78</b>	<b>1.11</b>	<b>0.67</b>

**8.6 Cost of the Project & Means of Financing** (Rs. in lacs)

Item	Amount
Building	1.50
Machinery	1.45
Miscellaneous Assets	0.40
P&P Expenses	0.65
Contingencies @ 10% on Land and Building & Plant & Machinery	0.30
Working Capital Margin	0.67
<b>Total</b>	<b>4.97</b>
<b>Means of Finance</b>	
Promoters' Contribution	1.50
Term Loan from Bank/FI	3.47
<b>Total</b>	<b>4.97</b>
Debt Equity Ratio	2.31: 1
Promoters' Contribution	30%

Financial assistance in the form of grant is available from the Ministry of Food Processing Industries, Govt. of India, towards expenditure on technical civil works and plant and machinery for eligible projects subject to certain terms and conditions.

**9.0 PROFITABILITY CALCULATIONS****9.1 Production Capacity & Build-up**

As against the rated capacity of 30 tonnes per year, the plant is assumed to operate at 50% in the first year as marketing and product acceptance would take some time. Second year onwards, it is assumed to be 70%.

**9.2 Sales Revenue at 100%**

Assuming selling price of Rs. 75,000/- per ton, sales income for 30 tonnes would be Rs. 22.50 lacs.

**9.3 Raw and Packing Materials Required at 100%** (Rs. in lacs)

Product	Qty. (Tonnes)	Price/Ton (Rs.)	Value
Raw Mangoes, Lemons,			
Carrots, etc.	35	10,000	3.50
Salt & Spices	--	--	3.00
Plastic Bags, Corrugated Boxes, etc.	--	--	3.00
		<b>Total</b>	<b>9.50</b>

#### 9.4 Utilities

Total cost at 100% activity level would be Rs. 80,000/year.

#### 9.5 Selling Expenses

Creating awareness amongst the consumers will require publicity in vernacular newspapers, scroll type advertisement on local TV channels, free sampling, hoardings etc. Retailers will have to be given trade discounts. There will be transportation costs as well. Hence, a provision of 20% of sales value is made every year.

#### 9.6 Interest

It is calculated @ 14% per annum on bank finance for working capital. On term loan of Rs. 3.47 lacs, it is computed @ 12% per annum considering repayment in 4 years including a moratorium period of 1 year.

#### 9.7 Depreciation

It is calculated on WDV basis @ 10% on building and 20% on machinery and miscellaneous assets.

### 10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
<b>A</b>	<b>Installed Capacity</b>	--- 30 Tonnes ---	
	Capacity Utilisation	50%	70%
	Sales Realisation	11.25	15.75
<b>B</b>	<b>Cost of Production</b>		
	Raw and Packing Materials	4.75	6.65
	Utilities	0.40	0.56
	Salaries	1.02	1.30
	Stores and Spares	0.12	0.24
	Repairs & Maintenance	0.18	0.30
	Selling Expenses @ 20%	2.25	3.15
	Administrative Expenses	0.24	0.36
	<b>Total</b>	<b>8.96</b>	<b>12.56</b>
<b>C</b>	<b>Profit before Interest &amp; Depreciation</b>	<b>2.29</b>	<b>3.19</b>
	Interest on Term Loan	0.38	0.25
	Interest on Working Capital	0.15	0.21
	Depreciation	0.52	0.44
	Profit before Tax	1.24	2.29
	Income-tax @ 20%	0.04	0.45
	Profit after Tax	1.20	1.84
	Cash Accruals	1.72	2.28
	Repayment of Term Loan	--	1.05

## 11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars	Rs. in lacs	
[A]	Sales		11.25
[B]	Variable Costs		
	Raw & Packing Materials	4.75	
	Utilities (70%)	0.28	
	Salaries (70%)	0.70	
	Stores & Spares	0.12	
	Selling Expenses (70%)	1.57	
	Admn. Expenses (50%)	0.12	
	Interest on WC	0.15	7.69
[C]	Contribution [A] - [B]		3.56
[D]	Fixed Cost		2.32
[E]	Break-Even Point [D] ÷ [C]		65%

## 12.0 [A] LEVERAGES

### Financial Leverage

$$\begin{aligned} &= \text{EBIT/EBT} \\ &= 1.77 \div 1.24 \\ &= 1.43 \end{aligned}$$

### Operating Leverage

$$\begin{aligned} &= \text{Contribution/EBT} \\ &= 3.56 \div 1.24 \\ &= 2.87 \end{aligned}$$

### Degree of Total Leverage

$$\begin{aligned} &= \text{FL/OL} \\ &= 1.43 \div 2.87 \\ &= 0.50 \end{aligned}$$

**[B] Debt Service Coverage Ratio (DSCR)**

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr
Cash Accruals	1.72	2.28	2.40	2.54
Interest on TL	0.38	0.25	0.14	0.05
<b>Total [A]</b>	<b>2.10</b>	<b>2.53</b>	<b>2.54</b>	<b>2.59</b>
Interest on TL	0.38	0.25	0.14	0.05
Repayment of TL	--	1.15	1.15	1.17
<b>Total [B]</b>	<b>0.38</b>	<b>1.30</b>	<b>1.19</b>	<b>1.15</b>
<b>DSCR [A] ÷ [B]</b>	<b>5.53</b>	<b>1.95</b>	<b>2.13</b>	<b>2.25</b>
<b>Average DSCR</b>	----- <b>2.97</b> -----			

**[C] Internal Rate of Return (IRR)**

Cost of the project is Rs. 4.97 lacs.

(Rs. in lacs)

Year	Cash Accruals	24%	28%	32%
1	1.72	1.39	1.34	1.30
2	2.28	1.48	1.39	1.31
3	2.40	1.26	1.14	1.04
4	2.54	1.07	0.95	0.84
	<b>8.94</b>	<b>5.20</b>	<b>4.82</b>	<b>4.49</b>

The IRR is around 26%.

**The machines will be available from**

1. Industrial Equipments, Guwahati
2. Archana Machinery Stores, Guwahati