

TUTTY FRUITY



1.0 INTRODUCTION

Tutty-fruity is made from unripe papaya fruit and contains substantial quantum of sugar. It is used as an additive in ice-cream and some sweets but its major consumption is in paan masala and some fresheners or "Mukhwass". It is a mass consumption item across the country. Children & young generation are very fond of it.

2.0 PRODUCTS

Tutty-fruity is consumed by all and sundry as it is added in paan and after-mint and some other milk preparations like ice-cream and shrikhand. Chewing of paan or paan masala especially after meals is a typical Indian habit and many non-tobacco paan eaters like this product. It is generally available in pinkish colour. This product can be manufactured across the country but this note is pertaining to Assam as reportedly there are very few producers and demand is increasing.

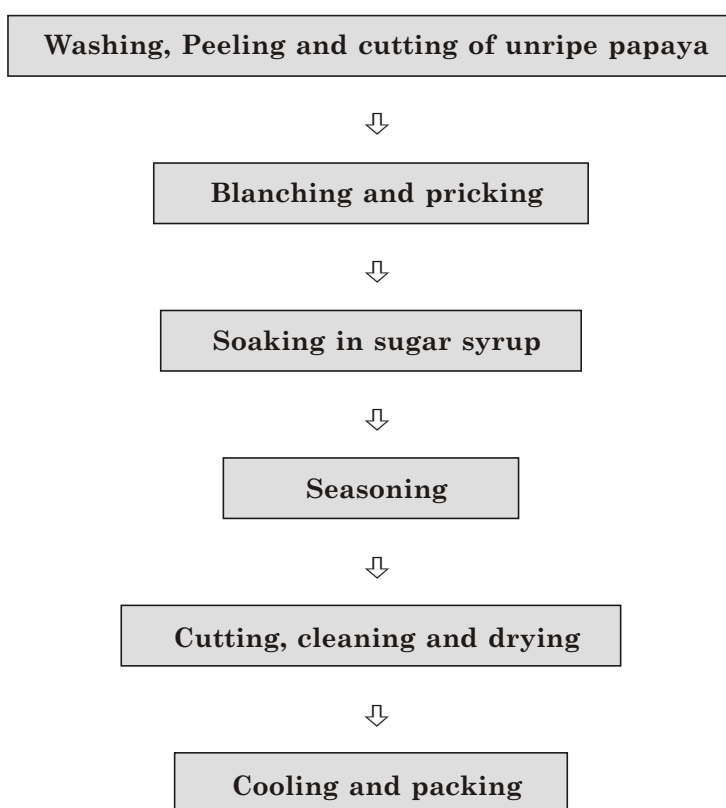
2.1 Compliances under the FPO and PFA Act is mandatory.

3.0 MARKET POTENTIAL

It is a mass consumption item consumed in all parts of the country by all sections of people. It is generally not consumed alone (except occasionally by kids) but added to paan or masala or sweet preparations. Its sweet taste and flavour is liked by many. It is not produced in large quantities as the market is completely scattered and servicing of this vast size beyond manageable distances is neither feasible nor economical. Hence, there are many local manufacturers catering to limited markets. There are very few units in Assam producing tutty-fruity and new units can capture the market very easily.

4.0 MANUFACTURING PROCESS

Big and unripe papaya are washed and then their outer skin is removed with the help of peeling machine. They are then cut length-wise and seeds and fibres are removed. These pieces are blanched in boiling water for 8-10 minutes and after cooling they are pricked with forks so that sugar syrup gets absorbed easily. The sugar syrup is made of 30% sugar solution with 3% citric acid. Pieces of papaya are added in boiling syrup and kept for about 10 minutes. Then these pieces are kept for around 8-10 hours. To impart colour and flavour, different colours and flavours are added to the syrup. Dried pieces are further cut into smaller sizes and are wiped with wet cloth for removing any dirt or excessive coating of sugar. These pieces are finally dried in a drier with temperature around 60° C for about 10 minutes and on cooling are packed in polythene bags. The process flow chart is as under:



5.0 CAPITAL INPUTS

5.1 Building

There is no need to buy land and then construct own building. Instead a readymade shed of 50 sq.mtrs. is suggested to limit capital expenditure. A large production hall can also accommodate packing and store room with the help of make shift partitions. The total investment is estimated to be Rs. 75,000/-.

5.2 Plant and Machinery

Annual rated capacity of 60 tonnes based on 2 shift working is suggested. To install this production capacity, following machines shall be required:

Item	Qty.	Price (Rs.)
Papaya peeling machine with SS body, 3 HP electric motor and other attachments	1	30,000
Papaya slicing and cubing machine of SS with double rollers, SS hopper and 1 HP electric motor	1	35,000
Diesel Furnace (Bhatti) with burners, fire bricks, oil cock, blower etc.	1	12,000
Electrically-operated drier with aluminium trays	1	30,000
Heat-sealing Machine	1	2,000
	Total	1,09,000

5.3 Miscellaneous Assets

An amount of Rs. 25,000/- is provided towards working tables, weighing scale, exhaust fans and furniture.

5.4 Utilities

Power connection of 10 HP is sufficient. Around 1000-1200 ltrs. of water shall be required every day. Furnace oil or kerosene consumption per day would be around Rs. 150/-. Thus, annual expenditure on utilities at 100% activity level would be Rs. 90,000/-.

5.5 Raw Material

The all-important raw materials are unripe but fully grown bigger sized papaya and sugar. Papayas are grown almost in all parts of Assam. No authentic information is available about the total production but it is in excess of 50,000 tons. Sugar is also available in local market. Weight and process loss is around 30% which is to some extent compensated by the absorption of sugar syrup. Thus, the average loss is about 25%. In other words to produce 60 tonnes of tatty-fruity, the annual requirement of unripe papaya will be 80 tons. Other raw materials like food grade colours and flavours and citric acid shall be required in small quantity. Similarly, polythene bags are also readily available.

6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Worker	2	1,800	3,600
Semi-skilled Workers	4	1,200	4,800
Salesmen	1	2,000	2,000
		Total	10,400

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 Building

The total expenditure under this head is estimated to be Rs.75,000/- as discussed earlier.

8.2 Machinery

A detailed list of machinery is already furnished. The anticipated expenditure is Rs. 1,09,000/-.

8.3 Miscellaneous Assets

A provision of Rs. 25,000 would take care of the needs.

8.4 Preliminary & Pre-operative Expenses

It is estimated that registration and establishment expenses and other pre-production expenses like trial runs etc. shall be Rs.30,000/-.

8.5 Working Capital Requirement

Working capital is a pre-requisite for the success of any project. However, in view of very small scale of activities and typical nature of customers, the bank would hesitate to provide post sales facilities. Major item of raw material is papaya which cannot be stored for more than 2-3 days. Hence, it is assumed that the bank may grant adhoc facility of Rs.40,000/- against second charge on fixed assets.

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

Item	Amount
Building	0.75
Machinery	1.09
Miscellaneous Assets	0.25
P&P Expenses	0.30
Contingencies @ 10% on Building and Plant & Machinery	0.18
Total	2.57
Means of Finance	
Promoters' Contribution	0.77
Term Loan from Bank/FI	1.80
Total	2.57
Debt Equity Ratio	2.33 : 1
Promoters' Contribution	29%

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 and Build-up

The installed capacity would be 60 tonnes per year whereas actual capacity utilisation has been taken at 65% and 75% respectively during first two years.

9.2 Sales Revenue at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Selling Price (Rs./Ton)	Sales
Tutty-Fruity	60	28,000	16.80

9.3 Raw Materials Required at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Rate per Ton	Value
Unripe Papaya	80	4,000	3.20
Sugar	-	-	3.75
Flavours, Food grade colours, Citric acid, etc.	--	--	0.30
Packing Materials	--	--	0.75
		Total	8.00

9.4 Utilities

As discussed earlier, the total expenditure under this head at 100% capacity utilisation is likely to be Rs. 90,000/-.

9.5 Interest

Interest on term loan of Rs. 1.80 lacs is computed @ 12% per annum assuming repayment in 2½ years including a moratorium period of 6 months. Interest on working capital assistance from bank is taken at 14% per annum.

9.6 Depreciation

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

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
A	Installed Capacity	--- 60 Tonnes ---	
	Capacity Utilisation	65%	75%
	Sales Realisation	10.92	12.60
B	Cost of Production		
	Raw and Packing Materials	5.20	6.00
	Utilities	0.59	0.68
	Salaries	1.25	1.40
	Stores & Spares	0.12	0.18
	Repairs & Maintenance	0.24	0.30
	Selling Expenses @ 12.5%	1.37	1.58
	Administrative Expenses	0.30	0.36
	Total	9.07	10.50
C	Profit before Int. & Depreciation	1.85	2.10
	Interest on Term Loan	0.20	0.13
	Interest on Working Capital	0.06	0.08
	Depreciation	0.35	0.28
	Net Profit	1.24	1.61
	Income-tax @ 20%	0.04	0.11
	Profit after Tax	1.20	1.50
	Cash Accruals	1.55	1.78
	Repayment of Term Loan	0.42	0.84

11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars	Amount	
[A]	Sales		10.92
[B]	Variable Costs		
	Raw Materials	5.20	
	Utilities (70%)	0.42	
	Salaries (70%)	0.88	
	Stores & Spares	0.12	
	Selling Expenses (80%)	1.10	
	Admn Expenses (50%)	0.15	
	Interest on WC	0.06	7.93
[C]	Contribution [A] - [B]		2.99
[D]	Fixed Costs		1.75
[E]	Break-Even Point [D] ÷ [C]		59%

12.0 [A] LEVERAGES

Financial Leverage

$$= \text{EBIT/EBT}$$

$$= 1.50 \div 1.24$$

$$= 1.21$$

Operating Leverage

$$= \text{Contribution/EBT}$$

$$= 2.99 \div 1.24$$

$$= 2.41$$

Degree of Total Leverage

$$= \text{FL/OL}$$

$$= 1.21 \div 2.41$$

$$= 0.50$$

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr
Cash Accruals	1.55	1.78	1.95
Interest on TL	0.20	0.13	0.05
Total [A]	1.75	1.91	2.00
Interest on TL	0.20	0.13	0.05
Repayment of TL	0.42	0.84	0.44
Total [B]	0.62	0.97	0.49
DSCR [A] ÷ [B]	2.82	1.97	4.08
Average DSCR	----- 2.96 -----		

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 7.49 lacs.

(Rs. in lacs)

Year	Cash Accruals	24%	28%	32%
1	1.55	0.66	0.58	0.51
2	1.78	1.43	1.39	1.35
3	1.95	1.27	1.19	1.12
	5.28	3.36	3.16	2.98

The IRR is around 35%.

Some of the machinery suppliers of Guwahati, Assam are

1. Archana Machinery Stores
2. Industrial Equipments