

PEA-NUT BUTTER

PRODUCT CODE	: N.A.
QUALITY AND STANDARDS	: PFA Regulations BIS Specification (IS 9037:1979)
PRODUCTION CAPACITY	: Qty.: 300 MT (per annum) Value: Rs. 153 lakhs (per annum)
MONTH AND YEAR OF PREPARATION	: May, 2003
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INTRODUCTION

In India, ground-nut is primarily considered an oil seed and only a small quantity of this oil seed is directly used as food. The per capita consumption of ground-nut in remote areas of our country has been estimated to be less than 5 gm/day. Ground-nuts have been recommended as a good source of protein. The ground-nut cake and flour is now generally used in the preparation of protein isolate and weaning foods.

Pea-nut butter is made from pea-nut, vegetable fat, salt and sugar, etc. and is of delicious flavour and high nutritive value like milk butter with low cost. It has butter like consistency and can be used as a substitute for butter.

The approximate composition of the peanut butter (in gm./100 gm.) is as follows:

Moisture	: 1.8-2%
Protein	: 24-27%
Fat	: 36-49%
Carbohydrate	: 12-17%

Crude fibre	: 2%
Ash	: 3.5-4.0%
Calories/100 gm.	: 580

MARKET POTENTIAL

Due to shortage of milk in the country, butter is becoming costlier day by day and is gradually going beyond the reach of the common people. The main raw material for pea-nut butter is ground-nut which is available in reasonable quantity. The ground-nut can be best utilized for the production of Pea-nut Butter to cater to the needs of the common people. It has good market potential.

BASIS AND PRESUMPTIONS

The profile is drawn on the basis of following presumptions:

Working hours/shift	: 8 hours
No. of shift/day	: 1
Working days	: 300
Total Number of working hours	: 2400
Working efficiency	: 75%

Time period for achieving maximum capacity utilization : 3rd year from the date from which production will be started

Labour charges : As per the Minimum Wages Act of State Government

Margin money : 25% of capital investment

Rate of interest on fixed and working capital : 15%

Operative period of the project : 10 years

Rent : Covered area—Rs. 30 Sq.mtr.
Uncovered area—Rs. 10 Sq.mtr.

Value of the machinery and equipment has been estimated on the basis of prevailing prices in the market.

IMPLEMENTATION SCHEDULE

Project implementation will take a period of 8 months from the date of approval of the scheme. Break-up of activities with relative time for each activity is shown below:

- a) Scheme preparation and approval : 0-1 month
- b) SSI provisional registration : 1-2 months
- c) Sanction of loan : 2-5 months
- d) Clearance from Pollution Control Board : 3-4 months
- e) Placement of order for delivery of machines : 3-5 months
- f) Installation of machines : 6-7 months

g) Power connection : 6-7 months

h) Trial run : 7-8 months

i) Commencement of production : 9 months onwards

TECHNICAL ASPECTS

Process of Manufacture

Best quality pea-nuts (ground-nuts) are selected. After decortication, the kernels are roasted carefully in an oven with continuous stirring until they begin to brown. The temperature should not exceed 240° F. When an oven is used, care is necessary in roasting the nuts otherwise the butter will have darkened colour and burnt taste. If these are under roasted, these lack flavour and colour and do not keep well. The roasted kernels are separated into halves by rubbing on a sieve. The skin and 'germ' or embryo are then removed. The presence of the germ is liable to cause the butter to go rancid sooner than it would otherwise and the skins show up red specks and give a slightly bitter taste. The white kernels are made into a paste neither too fine nor too coarse in a grinder. Before grinding, it is usual to add salt 1-3 percent and also sugar according to taste. To stabilize the peanut butter, solid hydrogenated fats such as Dalda, Marvo, etc. are added to the paste upto 2 percent, the amount depending upon the type of nuts, degree of solidity and the temperature. The mixture is then run through a homogeniser. There is no necessity of adding any chemical preservatives to the pea-nut butter. However, some anti-oxidants are added to stabilize the pea-nut butter. The butter can be kept in closed jars in a cool, dry place for several months. It is packed in cans and sterilized. Rust resistant lacquered cans should be used.

Quality Control and Standards

Product must meet PFA regulations. However, ISI specification for peanut butter is IS:9037:1979. It may also be manufactured as per the consumers' choice of taste and aroma.

Production Capacity

The scheme has been drawn for the manufacture of 1000 Kg. salted pea-nut butter per day and the sale value of the finished product has been taken into account @ Rs 60 per Kg.

Motive Power

The estimated power requirement for the plant and machinery including lighting and fittings is approximately 55 HP or 40 KW.

Pollution Control

The proposed unit for the manufacturing of peanut butter does not cause any pollution and hence does not require any precautionary steps to be taken for pollution control. However, no objection certificate may be obtained from the concerned State Pollution Control Board.

Energy Conservation

Only motive power is used to operate various machinery and equipment and hence care should be taken in operating machinery to minimize the electrical consumption.

FINANCIAL ASPECTS

A. Fixed Capital

i) Land & Building

Particulars	Amount (In Rs.)
Building 400 sq.mtr. including manufacturing area, storage, office etc.	12,000

Particulars	Amount (in Rs.)
(covered) rented @ Rs. 30 per sq.mtr.	
Uncovered area 100 sq.mtr @ Rs. 10 sq.mtr.	1,000
Total	13,000

ii) Machinery and Equipment

(a) Production Unit

Sl. No.	Description	Qty.	Total (Rs. in lakhs)
1.	Decorticator with 5 HP motor complete set	}	3.95
2.	Separator with 5 HP motor		
3.	Roaster oil circulating type rotary with 12.5 HP motor		
4.	Conveyor with 2 HP motor set		
5.	Pulversier 30" with cyclone separator, dust collector with 22 HP motor	1	1.00
6.	Homogeniser with motor	1	1.25
7.	Miscellaneous equipments including weighing scales and others	L.S.	0.60
	Laboratory equipment installation and electrification		0.40
	Office furniture and equipments		0.35
	Total		7.55

iii) Preliminary and Pre-operative Expenses	Total (Rs. in lakhs)
Legal expenses, establishment cost, travelling, start-up expenses, consultancy fee, estimate fee, interest during construction, trial run expenses, etc.	1.25
Total Fixed Capital (i+ii+iii)	8.80 lakhs

B. Working Capital (per month)

i) Personnel

S. No.	Designation	No.	Salary (In Rs.)	Amount (In Rs.)
a) Factory				
1.	Works Manager	1	6000	6000
2.	Supervisor	1	3000	3000

Sl. No.	Designation	No.	Salary (In Rs.)	Amount (In Rs.)
3.	Store-keeper	1	2500	2500
4.	Mechanic	1	2500	2500
5.	Electrician	1	2500	2500
6.	Skilled Worker	1	2000	2000
7.	Unskilled worker	5	1500	7500
8.	Guard/Chowkidar	1	1500	1500
<i>b) Administration</i>				
1.	Sales Supervisors	1	3000	3000
2.	Accountant-cum-Cashier	1	3000	3000
3.	Clerk-cum-typist	1	2500	2500
4.	Peon	1	1500	1500
	Total			37,500
	<i>Add perquisites @ 15% of total salary and wages</i>			5,625
	Total			43,125

(ii) Raw Material (Indigenous)

Sl. No.	Item	Qty. (Kg.)	Rate/ Kg. (Rs.)	Total (In Rs.)
1.	Pea-nut	25000	30	7,50,000
2.	Sugar	1500	14	21,000
3.	Dalda	625	40	25,000
4.	Salt	625	6	3,750
5.	Miscellaneous Chemicals/ Anti-oxidants	-	-	7,000
6.	Packaging materials	25000	4.50	1,12,500
	Total			9,19,250

(iii) Utilities

	Amount (In Rs.)
1. Electricity	16,000
2. Fuel	5,000
3. Water	500
Total	21,500

(iv) Other Contingent Expenses	Amount (In Rs.)
Rent	13,000
Consumable Stores	2,000
Repair and Maintenance	3,000
Postage and Stationery	2,500
Transport	3,000
Advertisement and Publicity	2,000
Insurance and Taxes	1,000
Telephone and Telegram, etc.	2,000
Miscellaneous Expenses	500
Total	29,000

(v) Total Recurring Expenditure	Amount (In Rs.)
a) Salary and Wages	43,125
b) Raw Material	9,19,250
c) Utilities	21,500
d) Other Contingent Expenses	29,000
Total	10,12,875

(vi) Working Capital (for 3 months)

10,12,875 × 3	=	30,38,625
	or Say	30,39,000

C. Total Capital Investment

	Total (Rs. in lakh)
a) Fixed Capital	8.80
b) Working Capital (For 3 months)	30.39
Total	39.19

MACHINERY UTILIZATION

The production capacity of the project has been taken @ 1000 Kg. per day in single shift. It is estimated that production may be enhanced three-fold by running three shifts. It is estimated that 35 to 40% capacity of the machinery will be utilized in single shift production.

