

BESAN PLANT

1. INTRODUCTION

Bengal gram is called Chickpea or Gram (*Cicer aritinum* L.) in South Asia and Garbanzo bean in most of the developed world. Bengal gram is a major pulse crop in India, widely grown for centuries and accounts for nearly 40 percent of the total pulse production.

2. PRODUCTS AND ITS APPLICATION:

BESAN is a product obtained by grinding, dried and decuticled Bengal Gram (L: *Cicer arietinum*). Besan is Bengal gram flour widely consumed in India. It is yellowish in color and possess characteristic Bengal gram taste and smell. Khesaru dal and other coloring matter shall not be added to true besan flour.

Plant Capacity & Product Mix:

It is proposed to produce 30 MT of besan per day, i.e. 900 ton/year. Total 37.5 MT bengal gram will be processed in the plant per day to produce 30 MT of besan per day. Remaining 7.5 MT will be husk and other process losses including moisture, dust removal etc. Out of 30 MT besan, 17 MT will be of super fine A-grade and remaining 13 MT will be B-grade besan.

3. DESIRED QUALIFICATION FOR PROMOTER:

The entrepreneur must be aware of sourcing and trading of Bengal gram whole and well versed with markets of besan for retail and bulk selling in India and abroad. The manufacturing process can be understood easily after some runs but marketing skill is must to sale besan in a competitive markets in India and abroad.

4. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:

India is the major growing country of the world, accounting for 61.65 percent of the total world area under Bengal gram during 2002 and 68.13 percent of the total world production. Bengal gram is widely appreciated as health food. It is a protein-rich supplement to cereal-based diets, especially to the poor in developing countries, where people are vegetarians or cannot afford animal protein. The pulse proteins are rich in lysine and have low sulfur containing amino acids. It offers the most practical means of eradicating protein malnutrition among vegetarian children and nursing mothers. Bengal gram has a very important role in human diet in our country.

India has exported about 12,000 tons of besan worth Rs. 7800 lakhs in year 2015-16 (APEDA) mainly to USA, UK, Australia, Kuwait, Canada, New Zealand, UAE, Singapore, Saudi Arabia, Oman and other countries.

5. RAW MATERIAL REQUIREMENTS:

	per day, tons	300.00	Per Yr. in MT		Per Annum
INGREDIENTS	Qty./Day	Qty./Yr. tons	Qty./yr. MT	Rate/ton	Rs. Lakhs
Whole Bengal Gram	37.50	11,250.00	11,250.00	56,750.00	6,384.38
Total		11,250.00	11,250.00	Rs.	6,384.38
Wastage @ 2%					6,512.06
Total Cost of Raw Materials				Rounding	6,512.06

6. MANUFACTURING PROCESS:

Whole bengal gram delivered at the site are first physically cleaned and separated from stone, dust, dirt and other foreign material. Cleaned material is conveyed into soaking-cum-drying bins where it is conditioned with little water and dried by blowing air to loosen its outer skin for separation. This process take about four hours' time. It is then subjected for splitting outer skin (husk) in a dal mill. The spilt dal is again moisturized and conditioned for

four hours. It is then subjected to final milling to extract maximum percentage of flour the final milling is carried out in emery roller machines. Thus obtained flour is further pass through battery of sieving machines to obtained super fine grade and fine grade material. The husk separated is collected from other chutes, whereas other sieved coarse material again feed-back for milling into roller machine. Finally, besan is packed directly in gunny bags, poly-line gunny bags for bulk selling and in laminated pouches or poly-bags for retail selling.

7. MANPOWER REQUIREMENT:

Requirement of Manpower

Manpower Total Requirements	Persons
Technical Staff	3.00
Adm. Staff	4.00
Marketing Staff	6.00
Labour	20.00
Total	33.00

8. IMPLEMENTATION SCHEDULE:

Implementation Schedule

Project Stages	MONTHS									
	1	2	3	4	5	6	7	8	9	10
Purchase of Land	Yellow	Yellow	Yellow							
Completion of Building	Green	Green	Green	Green	Green	Green				
Ordering of Machinery	Light Green	Light Green								
Delivery of Machinery			Pink	Pink	Pink					
Term/Wkg Loan Sanction		Light Blue	Light Blue	Light Blue						
Installation of Machinery					Orange	Orange				
Commissioning of Plant						Red				
RM/Inputs Procurement						Purple				
Manpower Appointments						Light Blue				
Commercial Production						Green				

9. COST OF PROJECT:

Cost Of Project

Costing Heads	Qty.	Rate/Unit	Rs. Lakh
Land in Sq. M. + Expenses	800.00	1,000.00	8.00
Building	400.00	9,000.00	36.00
Plant & Machinery			43.69
Other Capital Investment			10.00
Contingency			5.00
Total Cost of Project			102.69

10. MEANS OF FINANCE:

Means Of Finance

Means Heads	Rs. Lakhs
Promoters Capital	25.67
Term Loan	58.62
MFPI Subsidy	18.40
Unsecured Deposits	-
Total Means of Finance	102.69

11. WORKING CAPITAL CALCULATION:

Calculation of Working Capital

Particulars	Total Amount	Stock Days	Value of Stock Period	Promoter Margin	Promoter Share	Bank Borrowings
Raw Material	6,512.06	15	325.60	0.60	195.36	130.24
Packing Material	18.00	30	1.80	0.75	1.35	0.45
Work in Process	6,644.02	3	66.44	0.40	26.58	39.86
FP Stock	7,456.50	15	372.83	0.40	149.13	223.70
Bills Receivable	7,456.50	15	372.83	0.40	149.13	223.70
Working Expense	12.00	30	1.20	1.00	1.20	0.00
Total:	28,099.09		1,140.69		522.75	617.95

12. LIST OF MACHINERY REQUIRED:

List of Machinery

Sr. No.	Equipment	Qty.
1	Reel Machines	2
2	Milling Separator	2
3	Water Wheel Damper	3
4	Washer Whizzer	2
5	Eccentric Sieving Machine	2
6	Emery Roller Machine	2
7	Micro Pulverisers	2
8	Low Pressure Blower with Cyclones	1
9	Worm Conveyors	2
10	Elevators, Gravity Pipes, Spouts, etc.	8
11	Electrification, Workshop, Weighing Scales	3
12	Lab Equipment & Other Misc. Equipment	4

13. PROFITABILITY CALCULATIONS:

Profitability calculations

Sr. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
A	Gross Sales	4697.595	5368.68	6039.765	6039.765	6039.765
	Less:					
1	Raw Materials	4558.442	5209.648	5860.854	5860.854	5860.854
2	Packing Material	12.6	14.4	16.2	16.2	16.2
3	Fuel	3.528	4.032	4.536	4.536	4.536
4	Power	7.056	8.064	9.072	9.072	9.072
5	Manpower	42.627	48.095	53.557	53.557	53.557
6	Depreciation	10.437	11.928	13.419	13.419	13.419
7	Sundry Expenses	4.2	4.8	5.4	5.4	5.4
8	Interest on Term Loan	4.921	5.624	6.327	6.327	6.327
9	Interest on WC Loan	7.875	9	10.125	10.125	10.125
9	Repairs & Maintenance	3.5	4	4.5	4.5	4.5
B	Production Cost	4655.186	5319.588	5983.99	5983.99	5983.99
C	Gross Profit (A-B):	42.409	49.092	55.775	55.775	55.775
	Taxes @ 30%	12.7227	14.7276	16.7325	16.7325	16.7325
	Net Profit	29.6863	34.3644	39.0425	39.0425	39.0425

14. BREAKEVEN ANALYSIS:

Particulars	Rs. In lacs.
Break Even Point	
Annual Fixed Cost x100/	61.87
Annual Fixed Cost + Profit	

15. CRITICAL FACTORS FOR THE PROJECT:

1. Selection of Bengal gram and blending of different varieties of Bengal gram is a key factor to produce the besan of right quality and right price.
2. Selection of plant and machinery is important to produce besan of super fine grade.
3. Marketing is a vital factor to penetrate the users for this product as there is high competition.