

PROJECT PROFILE

ON

BISCUITS

Month & Year

Aug 2010

**PREPARED BY
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Supported by

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STIFTUNG **FÜR DIE FREIHEIT**

BISCUITS

1. Introduction

Biscuits are the most commonly consumed bakery products. The market leaders for the product include Britannia, Parle, True, Real, Bakemans, Dukes and a large number of national and local brands. There exists a lot of potential for manufacture and sale of biscuits and value added products such as high protein biscuits using vegetable protein isolates and concentrates or hydrolysates; chocolate biscuits with the incorporation of chocolate mass; biscuits with nuts and raisins etc.

2. Market

The product finds placement in all “A”, “B” and “C” class outlets, self service, departmental stores and supermarkets. In addition biscuits from India are exported to the neighbouring countries and the Gulf.

3. Packaging

Biscuits are best packed in metallized polyester-poly films. Alternatively a BOPP laminate BOPP film would also be suited. They can be packed in weights of 25, 50, 75, 100, 150, 200 and 300 grams and thereafter in multiples of 100 grams.

4. Production capacity

- The plant operates to three shifts a day with each shift of eight hours duration.
- The time period required for achieving full capacity utilization is three years.
- The plant will operate to a capacity of raw material (maida) input of 150 kilograms per hour or 3 M.T per day. The end product yield will be 2.5 metric tonnes per day. The estimated production per annum of 300 working days will be 750 tonnes of biscuits.

5. Sales revenue

- Considering the glucose (milk based) variety as an example, the ex-factory price will be Rs. 90.00 per kilogram thereby yielding a sales revenue of Rs. 675.00 lakhs on full capacity utilization.

6. Production process outline.

The ingredients consisting of refined wheat flour, sugar, liquid glucose, hydrogenated fat, skimmed milk powder, emulsifiers such as lecithin, ammonium bi-carbonate, traces of salt and preservatives are mixed in definite proportions and kneaded into dough by a mixer. The dough is put into a rotary moulding machine for cutting biscuit designs. The cut dough traverses on a conveyer belt through a baking oven at temperatures ranging between 180 and 220 degrees centigrade. The speed of the belt can be varied for optimum baking and the maximum time required is two and a half minutes. After baking, the biscuits are cooled to less than two percent moisture on a cooling conveyer, connected with the oven. It is then packed and readied for dispatch. The above mentioned process is typical for glucose biscuits. Protein concentrates from a groundnut or soya source can be added to the flour in small quantities not exceeding two to fifteen percent to give high protein biscuits. In the process of manufacture of salted varieties, liquid glucose and sugar are not added. After kneading, moulding and baking, the biscuits are sprayed with hot oil, dusted with additional salt and spices, cooled and packed.

7. Quality specifications

- The ingredients used in the manufacture of biscuits should strictly conform to standards laid down under the Prevention of Food Adulteration Act.
- Moisture content - maximum 2 percent.
- Acid insoluble ash - maximum 0.1 percent.
- Acidity of extracted fat as oleic acid - maximum 1.5 percent.
- The product should be free from coliforms, salmonella and streptococci bacteria.

8. Pollution control measures

Not necessary as there are no pollutants or effluents.

9. Energy conservation measures

Common measures will do.

10. Land and construction cost for the proposed unit

The proposed unit is to be set up in a leased area.

SI	Description	Sq. feet
1	Processing area	3000
2	Raw material store for maida	500
3	Sugar storage room	200
4	Vanaspathi storage room	200
4	Other ingredients store room	400
5	Finished goods store room	500
6	Laboratory	200
7	Office space	300
8	Machinery spares room	200
9	Toilet space	200
10	Miscellaneous space	300
11	Total	6000

Lease rentals – Rs. 6.00 per square foot

Total rent per month – Rs. 36000.

Lease advance – Rs. 3.00 lakhs

11. Costing of machinery and equipment

SI	Description	Rs. lakhs
1	Flour sifter	
2	Flour kneader	
3	Molding unit	
4	Baking oven	
5	Cooling unit	
6	Stacking unit	
7	Oil spraying unit	
8	Wrapping unit	
9	Creaming unit	
10	Weighing scales	
11	Machinery spares	
12	Total	26.400
13	Laboratory equipment	1.000
14	Grand total machinery and equipment	27.400

12. Project cost

SI	Description	Rs. lakhs
1	Land	On lease
2	Civil works	On lease
3	Plant machinery	26.400
4	Laboratory equipment	1.000
5	Transport vehicle 2 LCV	7.200
6	Pollution control equipment	0.000
7	Energy conservation equipment	0.000
8	Cost of power connection	0.800
9	Cost of electrification	1.000
10	Erection and commissioning	1.400
11	Cost of machinery spares	0.500
12	Cost of office equipment	0.500
13	Deposits if any	1.500
14	Company formation expenses	0.250
15	Gestation period expenses	1.000
16	Sales tax registration expenses	0.100
17	Initial advertisement and publicity	5.000
18	Contingencies	0.300
19	Working capital margin money	20.940
20	Total	67.890

13. Working capital requirements per month**a. Salaries and wages**

SI	Description	No of persons	Total salary / month (Rs. lakhs)
1	Production Manager	1	0.350
2	Production supervisor cum chemist	3	0.450
3	Skilled workers	3	0.300
4	Unskilled workers	30	1.200
5	Administrative staff	3	0.600
6	Security staff	3	0.150
7	Total	43	3.050

b. Raw material requirement per month

SI	Description	Qty (kgs)	Rate / kg (Rs)	Value (Rs. lakhs)
1	Maida	50000	27.00	13.500
2	Vanaspathi	12500	65.00	8.125
3	Invert sugar	5000	30.00	1.500
4	Sugar	15500	30.00	4.650
5	Ammonium bi carbonate	335	16.00	0.054
6	Sodium bicarbonate	450	18.00	0.081
7	Skimmed milk powder	2750	200.00	5.500
8	Salt	500	10.00	0.050
9	Colours and flavours	500	200.00	1.000
10	Water	25000		0.025
11	Total raw material			34.485

c. Packaging material requirement per month

SI	Description	Qty	Rate / unit (Rs)	Value (Rs. lakhs)
1	Primary packaging material – metallized polyester – poly film	450.kgs	250	1.125
2	Cartons and straps	11250 nos	40	4.500
3	Total			5.625

Total raw + packaging material = Rs. 40.110 lakhs

d. Utilities per month

SI	Description	Rs. lakhs
1	Power 30000 kwh @ Rs. 6.00 per unit	1.800
2	Water	0.050
3	Boiler fuel	0.000
4	Total utilities	1.850

e. Contingent expenses per month

SI	Description	Rs. lakhs
1	Rent for processing shed	0.360
2	Postage and stationery	0.020
3	Telephones, fax etc.	0.050
4	Consumable stores	0.100
5	Repairs and maintenance	0.281
6	Local transports, loading and unloading	0.300
7	Advertisement and publicity @ 2% of sales	1.125
8	Insurance	0.042
9	Sales expenses @ 2% of sales	1.125
10	Miscellaneous expenses @ 1% of sales	0.563
11	Trade incentives @ 2% of sales	1.125
12	Taxes @ 4%	2.250
13	Total contingent expenses	7.341

f. Total working capital requirement per month

SI	Description	Rs. lakhs
1	Salaries and wages	3.050
2	Raw material and packaging material	40.110
3	Utilities	1.850
4	Contingent expenses	7.341
5	Total	52.351

14. Means of finance

SI	Description	Rs. lakhs
1	Total Project Cost	67.890
2	Equity	22.404
3	Debt	45.486
4	Working capital margin money	20.940

15. Financial analysis

SI	Description	Rs. lakhs
1	Total recurring cost per year	628.212
2	Depreciation on land and building	0.000
3	Depreciation on machinery and vehicles	3.600
4	Depreciation on furnaces	0.000
5	Depreciation on moulds and fixtures	0.100
6	Depreciation on office equipment	0.100
7	Interest on long term loan @ 13.5%	6.141
8	Interest on short term borrowings@ 13.5%	4.240
9	Total cost of production	642.393

16. Turnover per year

SI	Item	Qty	Rate/unit (Rs)	Total Rs. lakhs
1	Biscuits	750,000 kgs	90	675

17. Viability analysis

SI	Description	Value
1	Net profit before income tax (Rs. lakhs)	32.607
2	Net profit ratio	4.8%
3	Internal rate of return	21.9%
4	Break even percentage	39%
5	Debt service coverage ratio	2.012

List of machinery suppliers for biscuits

1. Nagpal Brothers; C-127, Mayapuri Industrial Area Phase - II, (Opposite State Bank of India), New Delhi. 110064; Tel: 011 - 28117631; 011 – 28116407; Fax: 011 - 28116884
2. Gurunanak Engineering Corporation, No. 2-3-685/5, Amberpet, Hyderabad. 500013; Tel: 09848026621; 040 – 27406978
3. Mangal Engineering Works, Factory Area, Patiala 147001, Punjab. Tel: 0175 - 2364702; Fax: 0175 – 2360652
4. Mangal Machines Private Limited, Factory Area, Patiala 147001, Punjab. Tel: 0175 – 2360180; 0175 – 2355486; ; Fax: 0175 – 2360652
5. Om Engineering Works, 222, Sector 6, Panchkula, Haryana 134109; Tel: 0172 - 2578525; Fax: 0172 - 2585850