

WHOLE WHEAT FLOUR (ATTA MILL)

1. INTRODUCTION:

Wheat flour, also known as Atta in Hindi, is widely used product on daily basis in every household. For making chapattis, bread, roti, naan, puri Wheat Flour is basic and essential raw material. Most atta is milled from the semi-hard wheat varieties, also known as durum wheat that comprises 90% of the Indian wheat crop, and is more precisely called Durum Atta.

2. PRODUCT & ITS APPLICATION:

Wheat Flour or Atta is the predominantly used in food items in India, such as chapatti, roti, naan and puri and in sweet items too like halwa, pakoda, etc. This is basic and most essential product for daily consumption in every home in India.

3. DESIRED QUALIFICATIONS FOR PROMOTER:

Do not require any specific qualification.

4. INDUSTRY LOOKOUT AND TRENDS

Wheat is the most widely produced cereal all over the world, used for human consumption; Contribution of wheat to energy intake is significant. Global wheat flour market is majorly driven by rising consumption of bakery products fueled by combined influence of growing population, change in tastes of consumer and rise in disposable income of consumers worldwide.

In last few years, there has been a rising demand for wheat flour due to changing trend in food industry with innovations in food products and recipes coupled with

changing taste of consumers. Companies are launching new products, investing in expansion, and forming strategic alliances to increase their market share. The major players in the wheat flour market include Archer Daniels Midland Company (U.S.), Cargill Inc (U.S.), General Mills (U.S.), Ardent Mills Corporate (U.S.) and ITC Limited (India).

5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:

Whole wheat flour is used in making Chapaties, Puries, Parotha and other roasted cereal based products. Sooji / Rava is used in many sweetmeat products. Wheat flour or Maida is a basic raw material for making Bread, Biscuits Cakes and other bakery products. Bran separated on milling is used as cattle feed. The products sold under brand names are very few. The concept for branded cereal flour products is now increasing.

6. RAW MATERIAL REQUIREMENTS:

Basic raw materials required are Wheat Blended of different types. For packing, gunny bags will be required.

7. MANUFACTURING PROCESS:

Firstly, wheat is thoroughly cleaned such that all dust particles, stones and other foreign matters will be removed. Clean wheat will be tempered before grinding by treating with water so that the bran is separated from the endosperm. The tempered wheat is crushed between corrugated rollers (Break rolls). The first break rolls are set relatively far apart to grind the wheat lightly, while successive break yield finer and finer products. The first break is separated by sieving or bolting in to very fine particles (flour), intermediate particles (middling) and coarse particles (stock). The stock is then sent to second break rolls. This process may continue through 5 to 6 breaks. The stock contains pieces of endosperm and

bran and the stock from the last break is principally bran. The middling contains endosperm, bran and germ which are then successively classified and some of the bran removed is sent to reduction rollers. These are smooth rollers, but like the break rolls they are graduated so that successive reduction becomes finer and finer. After each reduction, sifters separate the flour, middling and stock, this process is continued until most of the endosperm has been removed as flour and most of the bran has been separated in the sifters.

8. MANPOWER REQUIREMENT:

The enterprise requires 10 employees as detailed below:

Sr. No.	Designation of Employees	SALARY PER PERSON	Monthly Salary ₹	Number of employees required				
				Year-1	Year-2	Year-3	Year-4	Year-5
	Variable Labour:							
1	Operator	₹ 10,000	₹ 10,000	1	1	1	1	1
2	Un Skilled Workers	₹ 8,000	₹ 24,000	3	3	3	4	4
	<i>sub-total</i>		₹ 34,000	4	4	4	5	5
	Fixed Staff:							
1	Miller-cum Chemist	₹ 15,000	₹ 15,000	1	1	1	1	1
2	Accountant	₹ 12,000	₹ 12,000	1	1	1	1	1
3	Store Keeper	₹ 8,000	₹ 8,000	1	1	1	1	1
4	Sales Supervisor	₹ 12,000	₹ 12,000	1	1	1	1	1
5	Security Personnel	₹ 6,500	₹ 6,500	1	1	1	1	1
6	Office Boy	₹ 6,000	₹ 6,000	1	1	1	1	1
	<i>sub-total</i>		₹ 59,500	6	6	6	6	6
	Total		₹ 93,500	10	10	10	11	11

9. IMPLEMENTATION SCHEDULE:

The project can be implemented in 13 months' time as detailed below:

Sr. No.	Activity	Time Required (in months)
1	Acquisition of premises	3.00
2	Construction (if applicable)	5.00
3	Procurement & installation of Plant & Machinery	2.00
4	Arrangement of Finance	2.00
5	Recruitment of required manpower	1.00
	Total time required <i>(some activities shall run concurrently)</i>	13.00

10. COST OF PROJECT:

The project shall cost ₹ 456.21 lacs as detailed below:

Sr. No.	Particulars	₹ in Lacs
1	Land	7.50
2	Building	3.20
3	Plant & Machinery	23.84
4	Furniture, Electrical Installations	1.00
5	Other Assets including Preliminary / Pre-operative expenses	2.38
6	Margin for Working Capital	96.00
	Total	133.92

11. MEANS OF FINANCE:

Bank term loans are assumed @ 60% of fixed assets. The proposed funding pattern is as under:

Sr. No.	Particulars	₹ in Lacs
1	Promoter's contribution	33.48
2	Bank Finance	100.44
	Total	133.92

12. WORKING CAPITAL CALCULATION:

The project requires working capital of ₹96 lacs as detailed below:

Sr. No.	Particulars	Gross Amt	Margin %	Margin Amt	Bank Finance
1	Inventories	48.00	0.25	12.00	36.00
2	Receivables	24.00	0.25	6.00	18.00
3	Overheads	24.00	100%	24.00	0.00
4	Creditors	-		0.00	0.00
	Total	96.00		42.00	54.00

13. LIST OF MACHINERY REQUIRED:

A detail of important machinery is given below:

Sr. No.	Particulars	UOM	Qty	Rate (₹)	Value
					(₹ in Lacs)
	Plant & Machinery / equipments				
a)	Main Machinery				
1	Single Bucket Elevator	Nos	1	₹ 0.90	0.90
2	Reel Machine	Nos	1	₹ 0.40	0.40
3	Rotary Separator	Nos	1	₹ 1.00	1.00
4	Scourer Machine	Nos	1	₹ 0.75	0.75
5	Intensive dampner	Nos	1	₹ 0.40	0.40
6	Rotometer	Nos	1	₹ 0.25	0.25
7	De-Stoner without fan & cyclone	Nos	1	₹ 0.75	0.75
8	Indent cylinder	Nos	1	₹ 0.90	0.90
9	Screw conveyour 7 m 1500/m, 4.5 m 1500/m	Nos	1	₹ 0.43	0.43
10	Dust cyclone with airseal dia 1120	Nos	1	₹ 0.17	0.17
11	Dust cyclone with airseal dia 960	Nos	1	₹ 0.15	0.15
12	L.P. Fan for Ist Cleaning	Nos	1	₹ 0.30	0.30
13	L.P. Fan for Main Cleaning	Nos	1	₹ 0.27	0.27
14	L.P. Fan for DE stoner	Nos	1	₹ 0.23	0.23

15	L.P. Fan for final Cleaning	Nos	1	₹ 0.25	0.25
Sr. No.	Particulars	UOM	Qty	Rate (₹)	Value
16	Magnets 6"*12"	Nos	2	₹ 0.02	0.04
17	Silogate	Nos	3	₹ 0.02	0.05
18	Roller Mill body	Nos	1	₹ 1.25	1.25
19	Rolls dia 250 * 1000 mm (Indian)	Nos	2	₹ 0.38	0.76
20	Roll Grooving & spindle cutting	Nos	2	₹ 0.03	0.06
21	Plansifter 8 feed /16 sec.	Nos	1	₹ 1.50	1.50
22	Purifier	Nos	1	₹ 0.60	0.60
23	Bran - finisher	Nos	1	₹ 0.20	0.20
24	Pneumatic lifts	Nos	4	₹ 0.18	0.72
25	Tripple worm 8 mt. Each	Nos	1	₹ 0.02	0.02
26	L.P. Fanpurifier	Nos	1	₹ 0.25	0.25
27	Dust cyclone dia 1120	Nos	1	₹ 0.20	0.20
28	H.P. Fan	Nos	1	₹ 0.45	0.45
29	Supper cyclone	Nos	1	₹ 0.30	0.30
30	Bolting cloth		Lot	₹ 0.40	0.40
31	Misc. accessories such as inspection, cover & joint range etc.	Nos	1	₹ 0.15	0.15
32	Electrical motors	LS		₹ 3.50	3.50
33	Electric pannel board fitted with starter main switches, cables, cable fittings, volts and AMP meters, AC.B capacitors etc.	LS		₹ 2.50	2.50
34	Reduction gears standard make	LS		₹ 0.75	0.75
35	V-Groove, Pulleys, Couplings, V-Belts etc.	LS		₹ 0.30	0.30
36	Errection Material such as angle, Channel Sheet, Iron etc.	LS		₹ 2.00	2.00
37	Tools and other equipment required during Errection	LS		₹ 0.35	0.35
38	Consumable items such as Nut, Bolt, Gas, and Welding Rods, Namda, Fevicol etc.	LS		₹ 0.20	0.20
39	Weighing scale	Nos	1	₹ 0.15	0.15
	<i>sub-total Plant & Machinery</i>				23.84
	Furniture / Electrical installations				
1	Office furniture	LS		0.7	0.70

Sr. No.	Particulars	UOM	Qty	Rate (₹)	Value
	<i>sub total</i>				0.70
	Other Assets				
1	preliminary and preoperative	LS		2.38	2.38
	<i>sub-total Other Assets</i>				2.38
	Errection and Consultancy Charges	LS		0.45	0.45
	Total				27.37

All the machines and equipments are available from local manufacturers. The entrepreneur needs to ensure proper selection of product mix and proper type of machines and tooling to have modern and flexible designs. It may be worthwhile to look at reconditioned imported machines, dies and tooling. Some of the machinery and dies and tooling suppliers are listed here below:

1. Fry-Tech Food Equipments Private Limited
S. No. 4, Raviraj Industrial Estate,
Bhikhubhai Mukhi Ka Kuwa Bharwadvash,
Ramol, Ahmedabad - 380024,
Gujarat, India

2. Hindustan Vibrotech Pvt. Ltd.
Office No. 2, Ground Floor,
Vrindavan Building, Vile Parle East,
Mumbai - 400057,
Maharashtra, India

3. Electrons cooling systems Pvt. Ltd.
S-27, SIDCO Industrial Estate
Kakkalur Industrial Estate
Tiruvallur - 602003,
Tamil Nadu, India

4. Springboard Enterprises India Ltd.

1st, 2nd & 3rd Floor,
Plot No. 7, 8 & 9,
Garg Shopping Mall,
Service Centre, Rohini Sector 2
New Delhi - 110085

5. Flour Tech Engineers Private Limited

Plot No. 182, Sector 24,
Faridabad - 121005,
Haryana, India

6. P Square Technologies

3, Swami Mahal,
Gurunanak Nagar,
Off. Shankarsheth Road Bhavani Peth,
Pune - 411002,
Maharashtra, India

7. Ricon Engineers

10 To 13, Bhagwati Estate,
Near Amraiwadi Torrent Power,
Behind Uttam Dairy,
Rakhial, Ahmedabad - 380023,
Gujarat, India

8. Kamdhenu Agro Machinery

Plot No. 6, Near Power House,
Wathoda Road Wathoda,
Nagpur - 440035,
Maharashtra, India

14. PROFITABILITY CALCULATIONS:

Sr. No.	Particulars	UOM	Year-1	Year-2	Year-3	Year-4	Year-5
1	Capacity Utilization	%	60%	70%	80%	90%	100%
2	Sales	₹. In Lacs	288.00	336.00	384.00	432.00	480.00
3	Raw Materials & Other direct inputs	₹. In Lacs	235.07	274.25	313.42	352.60	391.78
4	Gross Margin	₹. In Lacs	52.93	61.75	70.58	79.40	88.22
5	Overheads except interest	₹. In Lacs	12.62	13.40	14.98	15.45	15.77
6	Interest @ 10 %	₹. In Lacs	10.04	10.04	6.70	5.02	4.02
7	Depreciation @ 30 %	₹. In Lacs	16.69	11.92	8.34	5.96	5.36
8	Net Profit before tax	₹. In Lacs	13.59	26.39	40.56	52.96	63.07

The basis of profitability calculation:

This unit will have 2400 MT/Annum capacity. The growth of selling capacity will be increased 10% per year. (This is assumed by various analysis and study; it can be increased according to the selling strategy.)

Energy Costs are considered at Rs 7 per Kwh and fuel cost is considered at Rs. 65 per litre. The depreciation of plant is taken at 10-12 % and Interest costs are taken at 14 -15 % depending on type of industry.

15. BREAKEVEN ANALYSIS:

The project shall reach cash break-even at 22.43% of projected capacity as detailed below:

Sr. No.	Particulars	UOM	Value
1	Sales at full capacity	₹. In Lacs	480.00
2	Variable costs	₹. In Lacs	391.78
3	Fixed costs incl. interest	₹. In Lacs	19.79
4	BEP = $FC/(SR-VC) \times 100 =$	% of capacity	22.43%

16. STATUTORY / GOVERNMENT APPROVALS

The Ministry of Food Processing Industries has been operating several plan schemes for the development of processed food sector in the country during the 10th Plan. One of the schemes relates to the Technology Up-gradation/ Establishment/ Modernization of food processing industries.

The Indian food processing industry is regulated by several laws which govern the aspects of sanitation, licensing and other necessary permits that are required to start up and run a food business. The legislation that dealt with food safety in India was the Prevention of Food Adulteration Act, 1954 (hereinafter referred to as "**PFA**"). The PFA had been in place for over five decades and there was a need for change due to varied reasons which include the changing requirements of our food industry. The act brought into force in place of the PFA is the Food Safety and Standards Act, 2006 (hereinafter referred to as "**FSSA**") that overrides all other food related laws.

FSSA initiates harmonization of India's food regulations as per international standards. It establishes a new national regulatory body, the Food Safety and Standards Authority of India (hereinafter referred to as "**FSSAI**"), to develop science based standards for food and to regulate and monitor the manufacture, processing, storage, distribution, sale and import of food so as to ensure the availability of safe and wholesome food for human consumption. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

All food imports will therefore be subject to the provisions of the FSSA and rules and regulations which as notified by the Government on 5th of August 2011 will be applicable.

Key Regulations of FSSA

- A. Packaging and Labeling
- B. Signage and Customer Notices
- C. Licensing Registration and Health and Sanitary Permits

17. BACKWARD AND FORWARD INTEGRATIONS

The objective of the scheme is to provide effective and seamless backward and forward integration for processed food industry by plugging the gaps in supply chain in terms of availability of raw material and linkages with the market. Under the scheme, financial assistance is provided for setting up of primary processing centres/ collection centres at farm gate and modern retail outlets at the front end along with connectivity through insulated/ refrigerated transport.

The Scheme is applicable to perishable horticulture and non-horticulture produce such as, fruits, vegetables, dairy products, meat, poultry, fish, Ready to Cook Food Products, Honey, Coconut, Spices, Mushroom, Retails Shops for Perishable Food Products etc. The Scheme would enable linking of farmers to processors and the market for ensuring remunerative prices for agri produce.

The scheme is implemented by agencies/ organizations such as Govt. / PSUs/ Joint Ventures/ NGOs/ Cooperatives/ SHGs / FPOs / Private Sector / individuals etc.

Backward Linkage:

- Integrated Pack-house(s) (with mechanized sorting & grading line/ packing line/ waxing line/ staging cold rooms/cold storage, etc.)
- Pre Cooling Unit(s)/ Chillers
- Reefer boats
- Machinery & equipment for minimal processing and/or value addition such as cutting, dicing, slicing, pickling, drying, pulping, canning, waxing, etc.
- Machinery & equipment for packing/ packaging.

Forward Linkage:

- Retail chain of outlets including facilities such as frozen storage/ deep freezers/ refrigerated display cabinets/cold room/ chillers/ packing/ packaging, etc.
- Distribution center associated with the retail chain of outlets with facilities like cold room/ cold storage/ ripening chamber.

18. TRAINING CENTERS AND COURSES

There are few specialized Institutes provide degree certification in Food Technology, few most famous and authenticate Institutions are as follows:

1. Indian Institute of Food Science & Technology,
Plot No.1, Near Maa-Baap ki Dargah,Opp to Nath Seeds,
Paithan Road Aurangabad
Aurangabad - 431005
Maharashtra, India
2. MIT College of Food Technology, Pune
Gate.No.140, Raj Baugh Educational Complex,
Pune Solapur Highway,
Loni Kalbhor, Pune - 412201
Maharashtra, India
3. CSIR - Central Food Technological Research Institute (CFTRI)
Cheluvamba Mansion, Opp. Railway Museum,
Devaraja Mohalla, CFTRI Campus, Kajjihundi, Mysuru
Karnataka - 570020

Udyamimitra portal (link : www.udyamimitra.in) can also be accessed for handholding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

Disclaimer:

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.

Source:- Udyami Mitra/Sidbi