

# Soya Flour

## Product and its applications

Lifestyle is changing in most of the urban cities very rapidly. Urban population is health conscious and adopting healthy food habits. There is a lot of stress on avoiding junk food and adopting protein rich food. Soya beans are a rich source of protein and are extensively used in many food items. Soya beans are cultivated in most of the states, Madhya Pradesh being the leader. States like Maharashtra, Andhra Pradesh, and Uttar Pradesh Soya bean has good market particularly in value added forms. Bulk of the production is used for extraction of oil. Other products such as soya milk, flour, curd, paneer etc are also popularly consumed as Soya beans are high in protein, low in fat and easy to digest. Gujarat has joined the cultivation but Madhya Pradesh is the highest producer of Soya Beans. With both the husband and wife working the eating and cooking habits are undergoing changeover. Couples do not find time to cook fresh vegetables and resort to using pre cooked or sometimes high protein soya nuggets which do not call for lengthy cooking and have high nutritional value. These soya products are made out of soya flour. Soya flour is highly nutritious food ingredient that has been used for many years. An addition of Soya flour increases its protein content and serves as a source of energy and nutrition. This value addition to the wheat flour does not affect its shelf life and economics. The technology for such products is available with CFTRI. Compliance with PFA Act for such a unit is essential.

## Industry Profile and Market Assessment

Although soya flour has nutritional benefits, it is primarily used for its functional benefits. The potential market for soya flour are in school feeding programme, social welfare feeding programme, confectionery industry baking industries for nuggets and chunks manufacturing, as a supplement for wheat flour. When incorporated into bread dough, it enables bread to retain more moisture during baking process, thereby increasing yield. Thus it is a money maker for the baker. It also extends shelf life of the product by decreasing the rate of staling. When used in dough nuts, soya flour absorbs less oil, which is a relatively expensive ingredient thus saving the cost. Bakery is an age old industry. Bread and biscuits in different varieties manufactured either large multinationals or at village level in small setup form the bakery products. The products are popular both at rural as well as urban level only the product and price differs. While the rural population prefers the cheap home made variety the urban elite go in for costly varieties in different taste and assortments. There is market for both the varieties. The biscuits in general sense mean a product with lot of calories and which is generally consumed as a snack at tea time or children consume it in between meals. There are variations in the taste and for those who wish to retain energy. Soya flour is an important ingredient of biscuit industry. Soya flour is added to biscuit dough to increase the protein content and provide extra energy. Biscuits are consumed by all irrespective of age or income groups.

## Manufacturing Process & Know How

The process of manufacturing is simple and standardized, it is known as immersion cooking process. Soya beans are washed and thoroughly cleaned to remove dirt and other extraneous matter. These cleaned beans are then packed in clean cloth sacks. These sacks are then soaked in water for around 8-10 hours. Due to soaking the beans swell to nearly double their original size and gain weight by around 2.5 times. The soaked beans are then immersed in boiling water for rapid cooking. The cooked beans are then strained and then spread on trays in a current of mild circulation of air till the moisture content comes down to 10%. The dried soya beans are then cracked in a mill and hulls are separated. The de-hulled beans are ground to desired mesh size and packed. The process loss is approximately

5%.The process flow chart is as under:-

Know how is available with Central Government research Laboratories.  
The machinery is all indigenously available.

The production capacity envisaged is 2 tonnes per day on two shift basis for 250 days per year. The seasonal capacity is 500 tonnes per year.

## Plant and Machinery

The main plant and machinery required comprise

- Destoner. - 1 no.
- Magnetic Separator - 1no.
- Cookers. - 3nos
- Tray driers - 1 no
- Dehuller - 1 no.
- Pulveriser. - 1 no
- Mini Boiler - 1 no
- Sealing machines, Weighing scales.
- Syrup machine with motors - 1 no.

The total cost of machinery is estimated to be Rs.11.20 lakhs.

The unit will also require miscellaneous assets such as furniture, fixtures, storage facilities etc. the total cost of these is estimated to be Rs. 0.80 lakhs.

The total requirement of power shall be 40 HP, the unit will need 10000 lits of water daily.

## Raw material and Packing Material

The basic raw material for the unit is good quality Soya beans. Annual requirement at 100% capacity will be 530 tonnes. The packing may be of two types for retail sale and for bulk sale. For retail printed polythene bags are suitable, while for bulk polylined gunny bags. Packing material like boxes, polythene sheets, box strapping etc shall also be required.

On an average the raw material cost has been estimated to be Rs.23400 per tonne at rated capacity it works out to Rs. 124 lakhs. At 60% capacity in 1st year the cost works out to Rs 74.41 lakhs.

## Land and Building

For smooth operation of the unit, it will require 500 sq. mts of open land and a built up area of 200 sq. mts. The total cost of land and building is estimated at Rs. 12.00 lakhs.

## Manpower

For smooth functioning of the unit the requirement of man power is expected to be around 9 persons.

Sales person	self
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Skilled Workers	2
Semi skilled workers	2
Helpers	4
Supervisor	1

The annual salary bill is estimated to be around Rs.3.84 lakhs.

### Sales Revenue: (100% capacity)

Selling price varies depending on the product quality. An average price of Rs 35,000/- per tonne has been taken the annual income at installed capacity of 500 tonnes is Rs 175.00 lakhs.

### Cost of Project

	Rs. lakhs
Land & Building	12.00
Plant & Machinery	11.20
Other assets	0.80
Contingencies	2.20
P & P expenses.	1.00
Margin money	3.48
<b>Total</b>	<b>30.68</b>

### Means of Finance

Promoters Contribution	10.28
Term Loan	20.40
<b>Total</b>	<b>30.68</b>

### Profitability:(60%capacity)

	Rs. lakhs
Sales	105.00
Raw material	74.41
Salary	3.84

Utilities	0.90
Stores & Spares	0.30
Repairs & Maintenance	0.60
Selling expenses	10.50
Administrative expenses	1.05
Depreciation	1.20
Interest on T.L	2.75
Interest on W.C	1.37
Cost of production	96.92
<b>Profit</b>	<b>8.08</b>

### Requirement of Working Capital

		Margin	W.C	Margin Money
Raw material & packing	15 days	30%	3.72	1.11
Stock of finished goods	15 days	25%	4.77	1.19
Working expenses	1 month	100%	0.46	0.46
Sale on credit	15 days	25%	5.25	1.31
Margin money for W.C				4.07

### Break Even point

37%

### Machinery Suppliers

- M/S Sujata Enterprises Laxmi Road ,Pune.
- M/s Raylon Metal Works J.B.Nagar, Andheri(E) Mumbai.
- M/S Fluortech Engg. P.Ltd.Mathura Road, Faridabad.
- M/S Laxicon Engineering Works, Sita Bardi,Nagpur.

### Contact for more information

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