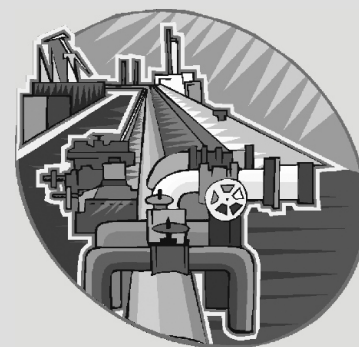


MINI OIL MILL



1.0 INTRODUCTION

Consumption of edible oils is increasing year after year and India imports large quantities every year. Different types of oilseeds are grown in the country like groundnuts, cotton seeds, mustard, rapeseed, sunflower, soyabean etc. Oilseed crop occupies important position in the agricultural and industrial economy of the country and accounts for about 13% of the cropped area. Mustard seed is one of the five major oil seeds from which edible oil is produced. Edible oil is an integral part of the Indian palate since long and different varieties are popular in different parts of the country.

2.0 PRODUCT

Edible oils are a medium of cooking. Mustard oil is the medium of cooking in almost all the states of eastern India like Bihar, West Bengal, the North-East states etc. It is also used for massage in a big way. Mustard oil-cake (a by-product) is common cattle and poultry feed and used as manure in view of its high nutritional value.

2.1 Compliance with PFA Act is mandatory. Adherence to AGMARK is advisable.

3.0 MARKET POTENTIAL

Oil milling is an age-old activity which has gone through many phases of development. Mini oil mill is a concept meant to cater to the local market unlike large oil mills with huge capacities and catering to regional markets with established brands and different varieties. Due to very peculiar food habits of the Indians, every household uses edible oil as a cooking medium almost everyday. Vegetarian as well as non-vegetarian food preparations need edible oils. Groundnut, cotton seed, rapeseed and mustard are the most popular edible oils in the

country but eastern-states prefer mustard oil as cooking medium. Oilseeds production in these states is growing year after year and there is a good scope for oil milling.

4.0 MANUFACTURING PROCESS

The manufacturing process is well-established and simple. To begin with, dry mustard seeds are fed to oil expellers for extraction of oil wherein about 90% of the oil is extracted. Liquid oil and solid portion (oil cake) is then separated in the filter press. Oil is packed either in tins or jars or plastic pouches and oil cake is sold to cattle feed manufacturers. Recovery of oil from oilseeds depends upon quality of mustard seeds and it is in the range of 30% to 35%.

5.0 CAPITAL INPUTS

5.1 Land and Building

There is no need to buy a piece of land and then undertake construction. Instead a readymade constructed shed of around 100 sq.mtrs. may be bought. Machines would occupy around 45-50 sq.mtrs. and balance space can be utilised for storage and packing. Cost of building would be around Rs.2.00 lacs.

5.2 Plant and Machinery

In view of the size of the market and keeping in mind the financial viability, it is assumed that the rated capacity would be to process 25 tonnes of mustard seeds per month based on working of 10-12 hours everyday. Mustard seeds will be available for not more than 8 months and thus per season processing capacity would be 200 tonnes. This would necessitate installation of following machines.

Item	Qty.	Price (Rs.)
Oil Expellers	2	70,000
Filter Press	1	50,000
Other support equipments like electric motors, diesel engine, conveyor belt, weighing scales, testing laboratory, etc.	--	60,000
	Total	1,80,000

5.3 Miscellaneous Assets

Assets like furniture and fixtures, storage tanks, packing tables, storage racks etc. are likely to cost Rs.50, 000/-.

5.4 Utilities

Power requirement will be 20 HP whereas about 50 ltrs. of diesel will be required every month. Per day water requirement will be 350-400 ltrs.

5.5 Raw and Packing Materials

The all-important raw material shall be mustard seeds. Districts like Gaya, Siwan, Bhojpur etc. produce substantial quantity of mustard seeds. Requirement of mill even at 100%

utilisation will not be more than 200 tonnes and therefore no difficulty is envisaged in procurement. Packing sizes and types shall have to be finalised beforehand and necessary prior arrangements shall have to be made.

6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Workers	2	2,000	4,000
Helpers	3	1,250	3,750
Salesman	1	2,000	2,000
		Total	9,750

7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	2
Site selection and commencement of civil work	1
Completion of civil work and placement of orders for machinery	4
Erection, installation and trial runs	1

8.0 DETAILS OF THE PROPOSED PROJECT

8.1 Building

As discussed earlier, a readymade constructed area of 100 sq.mtrs. is adequate. It may cost Rs. 2.00 lacs.

8.2 Machinery

Total cost of machinery is expected to be Rs.1.80 lacs as explained earlier.

8.3 Miscellaneous Assets

A provision of Rs.50, 000/- is adequate as mentioned earlier.

8.4 Preliminary & Pre-operative Expenses

A provision of Rs.50,000/- is made towards certain pre-production expenses like registration, establishment and administrative expenses, interest during implementation and trial run expenses.

8.5 Working Capital Requirements

At 60% capacity utilisation in the first year, working capital needs shall be as under:

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw Materials	½ Month	30%	0.80	0.55	0.25
Stock of Finished Goods	½ Month	25%	1.00	0.75	0.25
Receivables	1 Month	25%	2.00	1.50	0.50
Working Expenses	1 Month	100%	0.20	--	0.20
		Total	4.00	2.80	1.20

8.6 Cost of the Project & Means of Financing

(Rs. in lacs)

Item	Amount
Building	2.00
Machinery	1.80
Miscellaneous Assets	0.50
P&P Expenses	0.50
Contingencies @ 10% on Land and Building & Machinery	0.38
Working Capital Margin	1.20
Total	6.38
Means of Finance	
Promoters' Contribution	1.85
Term Loan from Bank/FI	4.53
Total	6.38
Debt Equity Ratio	2.45 : 1
Promoters' Contribution	29%

Financial assistance in the form of grant is available from the Ministry of Food Processing Industries, Govt. of India, towards expenditure on technical civil works and plant and machinery for eligible projects subject to certain terms and conditions.

9.0 PROFITABILITY CALCULATIONS

9.1 Production Capacity & Build-up

As against the processing capacity of 200 tonnes during 8 months, actual utilisation is expected to be 60% in the 1st year and thereafter 75%.

9.2 Sales Revenue at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Selling Price/Ton (Rs.)	Sales Value
Mustard Oil	70	55,000	38.50
Deoiled Cake	65	5,000	3.25
		Total	41.75

9.3 Raw & Packing Materials Required at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Price/Ton (Rs.)	Value
Mustard Seeds	200	14,000	28.00
Others --	--	2.00	
Packing Materials	--	--	1.50
		Total	31.50

9.4 Utilities

The annual expenditure at 100% utilisation will be Rs.60,000.

9.5 Interest

Interest on term loan of Rs. 4.53 lacs is calculated @ 12% per annum assuming repayment in 4 years including a moratorium period of 1 year whereas on bank loan for working capital, it is assumed to be 14%.

9.6 Depreciation

It is computed on WDV basis @ 10% on building and 20% on machinery and miscellaneous assets.

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
A	Installed Capacity	--- 200 Tonnes ---	
	Capacity Utilisation	60%	75%
	Sales Realisation	25.05	31.30
B	Cost of Production		
	Raw and Packing Materials	18.90	23.62
	Utilities	0.36	0.45
	Salaries	0.78	0.90
	Stores and Spares	0.15	0.24
	Repairs & Maintenance	0.18	0.30
	Selling Expenses @ 15%	1.25	1.57
	Administrative Expenses	0.42	0.54
	Total	22.04	27.62
C	Profit before Interest & Depreciation	3.01	3.68
	Interest on Term Loan	0.48	0.37
	Interest on Working Capital	0.40	0.50
	Depreciation	0.66	0.54
	Profit before Tax	1.47	2.27
	Income-tax @ 20%	0.27	0.47
	Profit after Tax	1.20	1.80
	Cash Accruals	1.86	2.34
	Repayment of Term Loan	--	1.35

11.0 BREAK EVEN ANALYSIS

(Rs. in lacs)

No	Particulars	Amount	
[A]	Sales		25.05
[B]	Variable Costs		
	Raw & Packing Material	18.90	
	Utilities (70%)	0.51	
	Salaries (65%)	0.51	
	Stores & Spares	0.15	
	Selling Expenses (75%)	0.94	
	Admn Expenses (50%)	0.21	
	Interest on WC	0.40	21.36
[C]	Contribution [A] - [B]		3.69
[D]	Fixed Cost		2.22
[E]	Break-Even Point [D] ÷ [C]		60%

12.0 [A] LEVERAGES

Financial Leverage

$$= \text{EBIT/EBT}$$

$$= 2.35 \div 1.47$$

$$= 1.60$$

Operating Leverage

$$= \text{Contribution/EBT}$$

$$= 3.69 \div 1.47$$

$$= 2.51$$

Degree of Total Leverage

$$= \text{FL/OL}$$

$$= 1.60 \div 2.51$$

$$= 0.64$$

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr
Cash Accruals	1.86	2.34	2.59	2.86
Interest on TL	0.48	0.37	0.21	0.12
Total [A]	2.34	2.71	2.80	2.98
Interest on TL	0.48	0.37	0.21	0.12
Repayment of TL	--	1.50	1.50	1.53
Total [B]	0.48	1.87	1.71	1.65
DSCR [A] ÷ [B]	4.88	1.45	1.63	1.81
Average DSCR	----- 2.44 -----			

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 6.38 lacs.

(Rs. in lacs)

Year	Cash Accruals	16%	18%	20%
1	1.86	1.60	1.58	1.55
2	2.34	1.74	1.68	1.62
3	2.59	1.66	1.58	1.50
4	2.86	1.58	1.48	1.38
	9.65	6.58	6.32	6.05

The IRR is around 18%.

Some of the machinery suppliers are

1. AMS Engg, Station Road, Patna
2. Prabhat Agency, Siwan
3. Chempro Engg. And consultants, 43, Sukhshine, Sunrise Park, Drive in Rd., Ahmedabad-380054. Tel No. 26851135/9010
4. Lakhanpal Food Processing Machinery, 36/6, Balkashwer Rd., Agra-282004.
Tel No. 2540726, Fax : 2540789