

HULLED SESAME SEEDS



1.0 INTRODUCTION

Sesame seeds are an agricultural produce and are cultivated in some parts of Gujarat in large quantities. Consumption within the country is not much but there is a substantial export market, with the European countries, Japan and certain Gulf countries being the bulk buyers. There are many export houses and agents dealing in many commodities including sesame seeds. Sesame seeds have a thin shell or husk which needs to be removed and this process is known as hulling. The process requires substantial quantity of water as raw sesame seeds are soaked in water to facilitate hulling and minimise the breakages. It is a labour-oriented process and the work is given on contract basis. It is a seasonal business with working of around 6 months in full swing. Like any other commodity business, the profit margins are low but volumes are high.

2.0 PRODUCT

2.1 Applications

Sesame seeds are oil seeds but their oil is not commonly used in India as it is expensive. They have got medicinal values and they control the ageing process. Use in the Gulf countries is mainly in a very popular sweet preparation called Tahini. This project can be started in any of the states of western India and this note considers Gujarat as the preferred location.

2.2 Availability of technology and Compliances

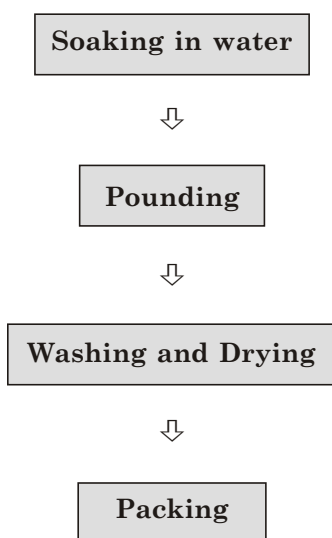
CFTRI, Mysore, has successfully developed the technical know-how. Compliance under the PFA Act is mandatory.

3.0 MARKET POTENTIAL

Sesame seeds are not regularly consumed in India and the major demand is from foreign countries. European countries and Japan are the major buyers in the world with seasonal demand from the Gulf region. Quality of Indian sesame seed is famous in the world and there is a substantial demand. There are many dealers in commodities at places like Rajkot, Ahmedabad and Mumbai and it is possible to undertake exports through them if direct exports are not to be undertaken. The process is very simple and the promoters should basically have experience of dealing in commodities.

4.0 MANUFACTURING PROCESS

It is very well standardised and simple. But it is advisable to engage specialised labour through a contractor as the local labour is not familiar and the process is laborious. Sesame seeds with shell are soaked in water for around 5-6 hours and then they are taken to special concrete pits (popularly known as "Khaniya" in the local language) and are hammered with the help of mechanised large wooden hammers so that skin is removed. Then the entire lot is thoroughly washed in water to remove skin and other dirt and deskinning sesame seeds are sun-dried and packed. It is also possible to use drier for drying. The packing is in new gunny bags. The process loss is 10%. The process flow chart is as follows:



5.0 CAPITAL INPUTS

5.1 Land and Building

A plot of land of around 250 sq.mtrs. will be required as the drying yard of around 30 running mtrs. with width of about 5 mtrs. will be needed. Two large tanks with around 2500-3000 ltrs' capacity for soaking, washing and three sunken pits of around 1000 ltrs, capacity shall be needed. They can be accommodated in open area with asbestos sheet roofing. Main factory building of 60 sq.mtrs. for packing and storage would be adequate. Land may cost Rs. 75,000/- whereas cost of construction including water tanks and drying yard could be Rs. 3.00 lacs.

5.2 Machinery

Production capacity is mainly determined by the pits with large wooden hammers and can be increased at short notice. Hence, it is advisable to make a moderate beginning with monthly capacity of 50 tonnes or capacity during the season of 300 tonnes. Large sized mechanised wooden hammers are easily available locally with each one costing around Rs. 40,000/- with electric motor. Weighing scale and certain other equipments like blower would cost Rs.30,000/-. Thus, total investment in machinery will be Rs. 1.50 lacs.

Necessary facilities are available locally.

5.3 Miscellaneous Assets

Some other assets like furniture & fixtures, storage racks etc. would cost Rs. 25,000/-.

5.4 Utilities

Power requirement will be 15 HP but water shall be required in large quantity. Daily requirement during the season will be 4500 to 5000 ltrs. and adequate arrangements shall have to be made.

5.5 Raw and Packing Materials

The only material required will be sesame seeds. Centres like Botad, Dhari, Gondal etc. cultivate large quantities with production in excess of 75,000 tonnes. Thus, availability will not be a bottleneck. But the promoters must be constantly in touch with the market to find out crop pattern, quality, prices etc. New gunny bags will be needed for packing.

6.0 Manpower Requirements

The established practice in this industry is to engage contract labour for the season. The contractor charges Rs.6500 to 7500 per ton with assurance of some minimum tonnage every month. It is advisable to adhere to this practice as the local labour may not be able to deliver. Apart from this arrangement, 3 persons shall be required - one each for supervision, record keeping and sales. Considering their total salary of Rs. 7000/- per month; the per season expenses would be Rs. 42,000/-. Contract labour charges are taken at Rs.7,000/- per ton.

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 Land and Building

As explained earlier, the total cost of land would be Rs. 75,000/- whereas that of civil work, it would be Rs. 3.00 lacs.

8.2 Machinery

The total cost of machinery will be Rs. 1.50 lacs as explained earlier.

8.3 Miscellaneous Assets

A provision of Rs. 25,000/- is adequate as explained before.

8.4 Preliminary & Pre-operative Expenses

A provision of Rs. 50,000/0 is made towards pre-production expenses like registration, establishment and administrative charges, interest during implementation, travelling etc.

8.5 Working Capital Requirements

Capacity utilisation in the first year is expected to be 60% which would require the following working funds:

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw Materials	½ Month	30%	2.15	1.50	0.65
Stock of Finished Goods	¼ Month	25%	1.60	1.20	0.40
Receivables	1 Month	25%	6.00	4.50	1.50
Other Expenses	1 Month	100%	0.40	--	0.40
		Total	10.15	7.20	2.95

8.6 Cost of the Project & Means of Financing (Rs. in lacs)

Item	Amount
Land and Building	3.75
Machinery	1.50
Miscellaneous Assets	0.25
P&P Expenses	0.50
Contingencies @ 10% on Land and Building & Plant & Machinery	0.50
Working Capital Margin	2.95
Total	9.45
Means of Finance	
Promoters' Contribution	2.75
Term Loan from Bank/FI	6.70
Total	9.45
Debt Equity Ratio	2.43 : 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 installed capacity of 300 tonnes during the season, capacity utilisation in the first year is taken at 60% and thereafter, it is limited to 75%.

9.2 Sales Revenue at 100%

Assuming selling price of Rs. 40,000/- per ton, the total income would be Rs. 120 lacs.

9.3 Raw and Packing Materials Required at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Rate (Rs.)	Total Value
Raw Sesame Seeds	330	26,000	85.80
Jute Bags of 50 Kgs	6,000 Bags	15/Bag	0.90
		Total	86.70

9.4 Utilities

A provision of Rs. 60,000/- is made during the season and major expenditure would be on water.

9.5 Interest

Interest on term loan of Rs.6.70 lacs is computed @ 12% per annum assuming complete repayment in 3½ years including a moratorium period of 6 months, whereas on working capital loan from bank it is computed @ 14% per annum.

9.6 Depreciation

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

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
A	Installed Capacity	--- 300 Tonnes ---	
	Capacity Utilisation	60%	75%
	Sales Realisation	72.00	90.00
B	Cost of Production		
	Raw and Packing Materials	52.02	65.02
	Utilities	0.36	0.45
	Contract Labour Salaries	13.02	16.24
	Repairs & Maintenance	0.12	0.18
	Selling & Admn. Expenses @ 2%	1.44	1.80
	Total	66.96	83.69
C	Profit before Interest & Depreciation	5.04	6.31
	Interest on Term Loan	0.68	0.35
	Interest on Working Capital	1.00	1.25
	Depreciation	0.65	0.55
	Profit before Tax	2.71	4.16
	Income-tax @ 20%	0.54	0.83
	Profit after Tax	2.17	3.33
	Cash Accruals	2.82	3.88
	Repayment of Term Loan	1.00	2.00

11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars	Amount	
[A]	Sales		72.00
[B]	Variable Costs		
	Raw and Packing Materials	52.02	
	Utilities (70%)	0.25	
	Contract Labour & Salaries (70%)	9.11	
	Selling & Admn. Expenses (60%)	0.86	
	Interest on WC	1.00	63.24
[C]	Contribution [A] - [B]		8.76
[D]	Fixed Cost		5.05
[E]	Break-Even Point [D] ÷ [C]		58%

12.0 [A] LEVERAGES

Financial Leverage

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

$$= 4.39 \div 2.71$$

$$= 1.62$$

Operating Leverage

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

$$= 8.76 \div 2.71$$

$$= 3.23$$

Degree of Total Leverage

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

$$= 1.62 \div 3.23$$

$$= 0.50$$

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr
Cash Accruals	2.82	3.88	4.12	4.31
Interest on TL	0.68	0.35	0.16	0.06
Total [A]	3.50	4.23	4.28	4.37
Interest on TL	0.68	0.35	0.16	0.06
Repayment of TL	1.10	2.20	2.20	1.20
Total [B]	1.78	2.55	2.36	1.26
DSCR [A] ÷ [B]	1.95	1.65	1.81	3.45
Average DSCR	----- 2.21 -----			

[C] Internal Rate of Return (IRR)

Cost of the Project is Rs. 9.45 lacs.

(Rs. in lacs)

Year	Cash Accruals	24%	28%	32%
1	2.82	2.27	2.20	2.14
2	3.88	2.52	2.37	2.23
3	4.12	2.16	1.97	1.79
4	4.31	1.82	1.61	1.42
5	4.68	1.60	1.36	1.17
	19.81	10.37	9.51	8.75

The IRR is around 28%.