

PROJECT PROFILE

ON

CRUDE EDIBLE OIL BY EXPPELLER PROCESS

Month & Year
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**PREPARED BY
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CRUDE EDIBLE OIL BY EXPELLER PROCESS

1. Introduction

Groundnut, coconut and sesame are the three major oilseeds grown in the State of Tamil Nadu. The oil content is high in these oilseeds. The oil can be obtained by crushing the seeds in an expeller and filtered to yield crude edible oil. These oils can be packed for sale directly and can be sold as filtered oils. Groundnut oil can also be sent to the refinery for refining which includes neutralization, bleaching and deodorisation.

2. Market

For coconut and sesame oils, the major markets are the “A” and “B” class outlets. The products also find placement in self service counters and departmental stores. Some “C” class outlets also stock the product. Edible oils have always a ready market because the production of oilseeds and oil is lower than the market demands of the consumer. For groundnut oil, the crude is sent to the refinery for refining and packaging. Filtered groundnut oil is also sold in very small quantities through oil stores.

3. Packaging

The expelled and filtered oil is packed in tins of 15 litre or 15 kilogram capacity. Sesame and coconut oil is packed in pouches of 250 grams, 500 grams and one litre.

4. Production capacity

- The plant will be in operation for one shift a day.
- The crushing capacity will be 5000 kilograms per shift.
- The crushing capacity will be 1500 M.T per annum.
- The time period required for achieving full capacity utilization is one year.

5. Sales revenue

- Seed procurement price - 32000 per ton.
- Crude oil selling price - Rs. 75000 per ton.
- Deoiled cake selling price - Rs. 12000 per ton.
- Total sales revenue on full capacity utilization:
 - a. By sale of oil - Rs. 528.75 lakhs
 - b. By sale of deoiled cake - Rs. 95.40 lakhs.
 - c. Total - Rs. 624.15 lakhs.

6. Production process outline.

Bold varieties of groundnut seeds and gingelly seeds are taken and dried in the sun to remove excess moisture. The seeds are crushed in the expeller, filtered through the filter press and packed in tins or drums for sale. For coconuts, the nuts after cracking into halves are dried and the copra obtained subjected to oil extraction and filtration in the expeller and filter press. The filtered oil is packed in tins or drums for sale.

The deoiled cakes of groundnut, gingelly and coconut can be used for incorporation in cattle feed. Alternatively, deoiled groundnut and gingelly can be used in the manufacture of candies in combination with jaggery or sugar.

7. Quality specifications

- **Filtered groundnut oil**
- Specific gravity - 0.910
- Butyro refractometer reading at 40 degrees centigrade - 54 to 57
- Iodine value - 94
- Saponification value - 191
- Unsaponifiable matter - 0.40% maximum
- Free fatty acids as oleic acid - 0.10% maximum

7. Quality specifications contd.

- **Filtered Sesame oil**
- Specific gravity - 0.907
- Butyro refractometer reading at 40 degrees centigrade - 58 to 67
- Iodine value - 105 to 115
- Saponification value - 188 to 193
- Unsaponifiable matter - 0.40% maximum
- Free fatty acids as oleic acid - 6% maximum

- **Filtered Coconut oil**
- Specific gravity - 0.9226
- Butyro refractometer reading at 40 degrees centigrade - 34 to 35
- Iodine value - 10
- Saponification value - 250 to 260
- Unsaponifiable matter - 1% maximum
- Free fatty acids as oleic acid - 0.005% maximum

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 leased premises in rural areas only.

The area required is 3500 square feet as detailed below:

SI	Description	Sq. feet
1	Processing area	1000
2	Raw material store	500
3	Finished goods storage room	500
4	Packaging material storage room	500
5	Laboratory	200
6	Office space	200
7	Machinery spares room	100
8	Toilet space	200
9	Miscellaneous space	300
10	Total	3500

Lease rent – Rs. 6.00 per square foot

Total rent per month – Rs. 21000

Lease advance – Rs. 100,000

11. Costing of machinery and equipment

SI	Description	Rs. lakhs
1	Oil expeller – 33 X 6 with raw material bucket elevator, feed hopper, conditioner and other accessories	8.000
2	Filter press, pump, underground storage tank etc	2.500
3	Motors and accessories; stainless steel storage tank etc	3.000
4	Total	13.500
5	Laboratory equipment	1.000
6	Grand total machinery and equipment	14.500

12. Project cost

SI	Description	Rs. lakhs
1	Land	On lease
2	Civil works	On lease
3	Plant machinery	13.500
4	Laboratory equipment	1.000
5	Transport vehicle (1 LCV)	7.500
6	Pollution control equipment	0.000
7	Energy conservation equipment	0.000
8	Cost of power connection	0.600
9	Cost of electrification	1.000
10	Erection and commissioning	1.350
11	Cost of machinery spares	1.000
12	Cost of office equipment	1.000
13	Deposits if any	0.700
14	Company formation expenses	0.100
15	Gestation period expenses	0.500
16	Sales tax registration expenses	0.100
17	Initial advertisement and publicity	5.000
18	Contingencies	2.000
19	Working capital margin money	19.576
20	Total	54.926

13. Working capital requirements per month

a. Salaries and wages

SI	Description	No of persons	Total salary / month (Rs. lakhs)
1	Production Manager	1	0.250
2	Skilled labour	2	0.120
3	Unskilled labour	4	0.160
4	Accounts Assistant	1	0.150
5	Administration Assistant	1	0.120
6	Driver	1	0.070
7	Total	10	0.870

b. Raw material requirement per month

SI	Description	Qty (kgs)	Rate / kg (Rs)	Value (Rs. lakhs)
1	Oilseeds	125000	32.000	40.000
2	Total raw material	125000		40.000

c. Packaging material requirement per month

SI	Description	Qty	Rate / unit (Rs)	Value (Rs. lakhs)
1	Barrels	294 nos	500	1.470
2	Gunnies	1325 nos	16	0.212
3	Total			1.682

Total raw + packaging material = Rs. 41.682 lakhs

d. Utilities per month

SI	Description	Rs. lakhs
1	Power 6000 kwh @ Rs. 6.00 per unit	0.360
2	Water	0.050
3	Boiler fuel	0.000
4	Total utilities	0.410

e. Contingent expenses per month

SI	Description	Rs. lakhs
1	Rent for processing shed	0.210
2	Postage and stationery	0.010
3	Telephones, fax etc.	0.050
4	Consumable stores	0.010
5	Repairs and maintenance	0.281
6	Local transports, loading and unloading	0.200
7	Advertisement and publicity @ 2% of sales	1.040
8	Insurance	0.018
9	Sales expenses @ 1% of sales	0.520
10	Miscellaneous expenses @ 1% of sales	0.520
11	Trade incentives @ 2% of sales	1.040
12	Taxes @ 4%	2.080
13	Total contingent expenses	5.979

f. Total working capital requirement per month

SI	Description	Rs. lakhs
1	Salaries and wages	0.870
2	Raw material and packaging material	41.682
3	Utilities	0.410
4	Contingent expenses	5.979
5	Total	48.941

14. Means of finance

SI	Description	Rs. lakhs
1	Total Project Cost	54.926
2	Equity	18.126
3	Debt	36.800
4	Working capital margin money	19.576

15. Financial analysis

SI	Description	Rs. lakhs
1	Total recurring cost per year	587.292
2	Depreciation on land and building	0.000
3	Depreciation on machinery	2.200
4	Depreciation on furnaces	0.000
5	Depreciation on moulds and fixtures	0.020
6	Depreciation on office equipment	0.100
7	Interest on long term loan @ 13.5%	4.968
8	Interest on short term borrowings@ 13.5%	3.964
9	Total cost of production	598.544

16. Turnover per year

SI	Item	Qty	Rate/unit (Rs)	Total Rs. lakhs
1	Oil	705 MT	75000	528.750
2	Deoiled cake	795 MT	12000	95.400
3	By recovery of cost of barrels			14.110
4	Total	1500 MT		638.260

17. Viability analysis

SI	Description	Value
1	Net profit before income tax (Rs. lakhs)	39.716
2	Net profit ratio	6.22%
3	Internal rate of return	31.4%
4	Break even percentage	48%
5	Debt service coverage ratio	1.976

List of machinery suppliers for crude edible oil by expeller process

1. Brimco Engineering Works, M - 24 / 1, Street No. 9, Anand Parbat Industrial Area, New Rohtak Road, New Delhi. 110005.; Tel: 011 - 25726347; Fax: 011 - 25761786
2. Goldin India Equipment Private Limited, F / 29, B.I.D.C. Industrial Estate, Gorwa, Vadodra, Gujarat. 390016. ; Tel: 0265 - 2380168; Fax: 0265 - 2380168
3. New Azad Oil Expeller Company, C - 82, Bulandsher Industrial Area, Ghaziabad, Uttar Pradesh.; Tel: 01204 – 2751003
4. Dhanalakshmi Industries, 204, Suramangalam main Road, Pallapatty, Salem. 636009; Tel: 0427-2350674