PROJECT REPORT

Of

MUSTARD OIL

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Mustard Oil Unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]



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MUSTARD OIL MILL



Introduction

Mustard oil is made from pressing the seeds of a mustard plant to produce spicy oil. Mustard oil is popular in Eastern cooking, although some American chefs have begun experimenting with the oil, which has a heat and distinctive flavour to it.

<u>Ingredients</u>

Mustard oil is made from Mustard seeds. Different types of Mustard seeds are available in the market & it contains natural flavour.

Product types/Verities of Mustard Oil

There are three varieties of mustard oil available in market includes B. nigra (black mustard), B. juncea (brown mustard), and B. hirta (white mustard). Mustard oil market is segmented on the basis of product type, production process, application, distribution channels and region.

On the basis of product type includes B. nigra (black mustard), B. juncea (brown mustard), and B. hirta (white mustard). Among all of these, black mustard is majorly used in terms of volume and is expected to grow due to its various applications in market.

Benefits of Mustard Oil

- Mustard essential oil has been found to be a powerful antibacterial agent. Source found that mustard essential oil effectively killed off common and harmful bacteria such as salmonella, staph, listeria, and even a certain type of yeast. It can also be used as an antifungal.
- 2. Mustard oil is rich in monounsaturated fatty acids. Researchers have consistently found that including monounsaturated fatty acids in the diet can reduce the risk of cardiovascular disease.
- 3. Mustard oil contains a compound that could be useful for reducing inflammation: allyl isothiocyanate.

Uses of Mustard Oil

Mustard essential oil has great anti-inflammatory properties. Historically, mustard oil has been used to:

- As cooking oil
- Treat arthritis
- Soothe aches and pains
- Decrease inflammation from chest conditions such as bronchitis and pneumonia
- Relieves Body pain

Description of Mustard Oil Machine

Mustard Oil Machine (known as Ghani) is used to produce mustard oil from the Mustard seeds. With the help of this machine the work of Mixing, Grinding completes with the help of manual support. An extra button for handling the device is attached in the machine, so that one can control its speed while operating the machine.

Mustard Oil Current Market Analysis

On the record, production of mustard seeds, a winter crop cultivated in the northern States was very high as compared to last year. Rajasthan is the major producer contributing up to 47 per cent of the domestic production, followed by Madhya Pradesh (11.44 per cent), Haryana (12 per cent) and Uttar Pradesh (10.41 per cent). Consumption of mustard oil has grown about 5 percent per year for the past 40 years and currently stands at approximately 2.3 million metric tons annually. Although consumption of mustard oil is typically more prevalent in rural areas, total consumption is usually higher in urban areas. Most mustard oil (around 90 percent) is used for cooking, and the rest is used for pickling and consumption as raw oil (sareson-ka-thal, "oil of mustard") directly on foods.

Mustard oil Manufacturing Process

- Take the raw material (Mustard Seeds) & put it into the Ghani machine hopper.
- After that start the machine & process of crushing the mustard seeds will start. It requires manual manpower to operate the machine as well as for the crushing process.
- It takes time to manually crush the material and the generation of oil from it.
- After that put the Mustard oil cake into the expeller for generating the more oil from the machine.
- Next step is to collect the Mustard oil from the expeller and put it into the filter machine for the filtering process.
- After filtering of oil, product is ready for packaging.

Ghani Machine process is the base for Mustard oil production process. The production process begins with the procurement of raw material i.e. Mustard seeds. The procurement of raw material depends upon the quality parameters set by the producer.

One round of mustard oil production takes 90-100 minutes for completion of production process.

Maximum 5 completed Rounds of Mustard oil production can be done in a shift of 8 hours a day.

Normally Mustard oil is generated at 28-30% of raw material but we can increase its production by 5% using the expeller machine for more production of mustard oil by reprocessing left mustard cake. Maximum oil produced through one round of 12 kg of raw material is 3.96 KG.

Density of 1 litre oil = .90 KG

So, production per round = 3.96/.90 = 4.4 litre oil.

The Oil Produced from this process is 100% pure.

Types of Product Manufactured

Through the Mustard oil production process, two types of products are produced.

- 1. Main product i.e. Mustard Oil
- 2. By product i.e. Mustard oil cake this product is purchased by the farmers as a food for their cattle's.

Both products have their own Market demand.

Selling price of 100% pure Mustard oil = Rs. 130 per litre

Selling price of Mustard oil cake = Rs. 20-25 Per KG

Machinery & Equipment's required:

Particulars	Price
Ghani Machine (Sizes: 6 Bolt, 8 bolt, 12 Bolt)	67,000
Expeller	1,25,000
10 HP Motor	30,000
Filter machine	50,000
Total Cost	2,72,000

^{*}Total cost of the machine = Rs. 2,72,000 + 18% GST

Input of the machine is 12 Kg/per round depends upon material & Its Quality.

Land & Building required:

Land required 200-250 Square Feet (approx.)

Approximate rent for the same is 4000-4500 per Month.

Labour Requirement:

Only 1 Manpower is required for the Mustard oil production process.

Break Even Point:

Maximum production of mustard oil per annum = 6600 litre

Break-even point of the machine = 2310 Litre per year

Company should operate at minimum 35% of Production capacity to cover its costs (variable + Fixed)

Raw Material Requirement of Mustard Oil Machine

Mustard seeds are required as raw material for the production of Mustard oil. Mustard seeds are the small round seeds of various mustard plants.

Mostly Black seeds are used for the production of mustard oil.

Mustard seeds (cost per KG) =Rs.35 - 40

Mustard oil mill license ®istration

For proprietor

- Obtain the GST registration.
- FSSAI Registration.
- Choice of a Brand Name of the product and secure the name with Trademark if required.

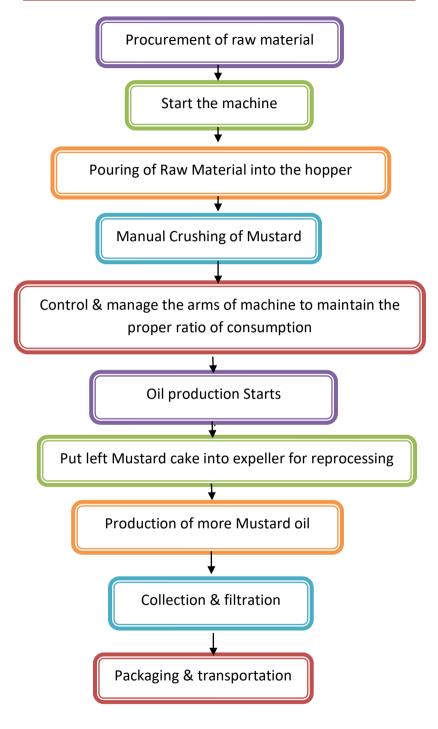
Implementation Schedule

S.N.	Activity	Time Required (in Months)
1	Acquisition Of premises	1
2	Construction (if Applicable)	1- 2 Months
3	Procurement & installation of Plant & Machinery	1
4	Arrangement of Finance	1
5	Requirement of required Manpower	0.5
	Total time Required (some activities shall run concurrently)	2 - 3 Months

Conclusion: After completion of manufacturing process, product is ready to sell in the market. Various functions of mustard oil such as appetizer, stimulant, hair vitalizer, anti-bacterial, anti-fungal and others increase its demand in market. This machine can be installed with low investment.

Technical Process Flow Chart

Mustard Oil Manufacturing Process



Project Economics

FINANCIAL ASSISTANCE REQUIRED

Term Loan of Rs.2.56 Lakhs

COST OF PROJECT

PARTICULARS	AMOUNT	AMOUNT	AMOUNT
Land			
Building Civil Work			
Plant & Machinery	3.21	0.80	2.41
Furniture & Fixtures and Other Assets	0.20	0.05	0.15
Margin for Working Capital	0.94	0.94	-
Total	4.35	1.42	2.56

MEANS OF FINANCE

PARTICULARS	AMOUNT
Own Contribution	1.80
Bank Loan	2.56
Total	4.35

COMPUTATION OF PRODUCTION OF MUSTARD OIL				
Items to be Manufactured				
Mustard Oil				
Machine Capacity	12	KG per round		
maximum rounds in a day	5			
machine capacity per day	60	KG per day		
Raw material requirement				
Raw material per day	60	KG		
raw material required per annum	18000	KG		
output of main product (33% of input)	5940	KG		
output of by product (rest part)	12060	KG		
Total Raw Material requirement	18000	KG		
Density of one Liter	0.90	kg		
Output of mustard oil per annum	6,600	Liter		

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Production of Mustard oil		
Production	Capacity	Liter
1st year	90%	5,940
2nd year	93%	6,138
3rd year	96%	6,336
4th year	100%	6,600
5th year	100%	6,600

Production of By product		
Production	Capacity	KG
1st year	90%	10,854
2nd year	93%	11,216
3rd year	96%	11,578
4th year	100%	12,060
5th year	100%	12,060

CALULATION OF CONSUMPTION OF RAW MATERIAL			
Item Name	At Capacity	Quantity of Raw Material (KG)	
Raw Material	100%	18,000	

Raw Material Consumed	Capacity Utilization	Rate per Kg	Amount (Rs. in Lakh)
1st year	90%	35.00	5.67
2nd year	93%	35.70	5.98
3rd year	96%	36.41	6.29
4th year	100%	37.14	6.69
5th year	100%	37.89	6.82

COMPUTATION OF SALE (MUSTARD OIL)						
Particulars	1st year	2nd year	3rd year	4th year	5th year	
Op Stock	-	198	205	211	220	
Production	5,940	6,138	6,336	6,600	6,600	
Less: Closing Stock 198 205 211 220 220						
Net Sale	5,742	6,131	6,329	6,591	6,600	

Main product - Must	ard Oil		
Production	Liter	Price per Liter	Sales
lst year	5,742	130.00	7.46
2nd year	6,131	136.50	8.37
3rd year	6,329	143.33	9.07
4th year	6,591	150.49	9.92
5th year	6,600	158.02	10.43

By product - Mustard Cake				
Production	KG	Rate per KG	Sales	
1st year	10,854	22.00	2.39	
2nd year	11,216	23.10	2.59	
3rd year	11,578	24.26	2.81	
4th year	12,060	25.47	3.07	
5th year	12,060	26.74	3.22	

BREAK UP OF LABOUR CHARGES			
Particulars	Wages	No of	Total
	Per Month	Employees	Salary
Labour requirement	8000	1	8000
Total Salary Per Month			8,000
Total Annual Labour Charges	(in Lacs)		0.96

Utility Charges at 100% capacity (per mont	h)	
Particulars	value	Description
Power connection required	5	KWH
consumption per day	40	units
Consumption per month	1000	units
Rate per Unit	7	Rs.
power Bill per month	7000	Rs.

PROJECTED PROFITABILITY STATEMENT							
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year		
Capacity Utilization %	90%	93%	96%	100%	100%		
SALES							
Gross Sale							
Mustard oil (main Product)	7.46	8.37	9.07	9.92	10.43		
Mustard Cake (by product)	2.39	2.59	2.81	3.07	3.22		
Total	9.85	10.96	11.88	12.99	13.65		
COST OF SALES							
Raw Material Consumed	5.67	5.98	6.29	6.69	6.82		
Electricity Expenses	0.76	0.78	0.81	0.84	0.84		
Labour & Wages	0.96	1.01	1.06	1.11	1.17		
Depreciation	0.50	0.43	0.36	0.31	0.26		
Cost of Production	7.89	8.19	8.52	8.95	9.09		
Add: Opening Stock /WIP	-	0.26	0.27	0.28	0.30		
Less: Closing Stock /WIP	0.26	0.27	0.28	0.30	0.30		
Cost of Sales	7.62	8.18	8.51	8.93	9.09		
GROSS PROFIT	2.23	2.78	3.37	4.06	4.57		
Gross Profit %	23%	25%	28%	31%	33%		
Interest on Term Loan	0.25	0.22	0.15	0.09	0.02		
rent	0.48	0.51	0.55	0.58	0.62		
Selling & other expenses	0.08	0.09	0.10	0.10	0.18		
TOTAL	0.81	0.82	0.79	0.77	0.75		
NET PROFIT	1.42	1.96	2.58	3.29	3.75		
Taxation	-	-	-	-	-		
PROFIT (After Tax)	1.42	1.96	2.57	3.25	3.75		

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PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>Liabilities</u>	rot your	Ziid youi	ora year	Hill your	our your
<u>Capital</u>					
•		2.42	2.00	2.05	2.04
opening balance		2.42	2.88	3.25	3.64
Add:-Own Capital	1.80				
Add:-Retained Profit	1.42	1.96	2.58	3.29	3.75
Less:- Drawings	0.80	1.50	2.20	2.90	3.50
Closing Balance	2.42	2.88	3.25	3.64	3.89
Term Loan	2.26	1.66	1.06	0.46	-
Sundry Creditors	0.09	0.10	0.10	0.11	0.11
TOTAL:	4.77	4.63	4.41	4.21	4.00
<u>Assets</u>					
Fixed Assets (Gross)	3.41	3.41	3.41	3.41	3.41
Gross Dep.	0.50	0.93	1.29	1.60	1.87
Net Fixed Assets	2.91	2.48	2.12	1.81	1.54
Current Assets					
Sundry Debtors	0.49	0.55	0.59	0.65	0.68
Stock in Hand	0.55	0.57	0.60	0.63	0.64
Cash and Bank	0.82	1.03	1.11	1.12	1.13
TOTAL:	4.77	4.63	4.41	4.21	4.00

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
SOURCES OF FUND					
Own Margin	1.80				
Net Profit	1.42	1.96	2.58	3.29	3.75
Depreciation & Exp. W/off	0.50	0.43	0.36	0.31	0.26
Increase In Term Loan	2.56	-	-	-	-
Increase in Creditors	0.09	0.01	0.01	0.01	0.00
TOTAL:	6.37	2.39	2.95	3.60	4.02
APPLICATION OF FUND					
Increase in Fixed Assets	3.41	-	-	-	-
Increase in Stock	0.55	0.03	0.03	0.03	0.01
Increase in Debtors	0.49	0.06	0.05	0.06	0.03
Repayment of Term Loan	0.30	0.60	0.60	0.60	0.46
Drawings	0.80	1.50	2.20	2.90	3.50
Taxation	-	-	-	-	-
TOTAL:	5.55	2.18	2.87	3.59	4.00
Opening Cash & Bank Balance	-	0.82	1.03	1.11	1.12
Add : Surplus	0.82	0.21	0.07	0.01	0.01
Closing Cash & Bank Balance	0.82	1.03	1.11	1.12	1.13

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL										
PARTICULARS 1st year 2nd year 3rd year 4th year 5th year										
Finished Goods	Finished Goods									
(10 Days requirement)	0.26	0.27	0.28	0.30	0.30					
Raw Material										
(15 days requirement) 0.28 0.30 0.31 0.33 0.34										
Closing Stock	0.55	0.57	0.60	0.63	0.64					

COMPUTATION OF WORKING CAPITAL REC	<u>QUIREMENT</u>		
TRADITIONAL METHOD			
Particulars	Amount	Own Margin	
Finished Goods & Raw Material stock	0.55		
Less : Creditors	0.09		
Paid stock	0.45	100%	0.45
Sundry Debtors	0.49	100%	0.49
	0.94		0.94
Working Capital Limit Required			0.94

COMPUTATION OF DEPRECIATION						
Description	Plant & Machinery	Furniture	TOTAL			
Rate of Depreciation	15.00%	10.00%				
Opening Balance	-	-	-			
Addition	3.21	0.20	3.41			
Total	3.21	0.20	3.41			
Less : Depreciation	0.48	0.02	0.50			
WDV at end of Year	2.73	0.18	2.91			
Additions During The Year	-	-	-			
Total	2.73	0.18	2.91			
Less : Depreciation	0.41	0.02	0.43			
WDV at end of Year	2.32	0.16	2.48			
Additions During The Year	-	-	-			
Total	2.32	0.16	2.48			
Less : Depreciation	0.35	0.02	0.36			
WDV at end of Year	1.97	0.15	2.12			
Additions During The Year	-	-	-			
Total	1.97	0.15	2.12			
Less : Depreciation	0.30	0.01	0.31			
WDV at end of Year	1.68	0.13	1.81			
Additions During The Year	-	-	-			
Total	1.68	0.13	1.81			
Less : Depreciation	0.25	0.01	0.26			
WDV at end of Year	1.42	0.12	1.54			
Additions During The Year	-	-	-			
Total	1.42	0.12	1.54			
Less : Depreciation	0.21	0.01	0.23			
WDV at end of Year	1.21	0.11	1.32			
Less : Depreciation	0.18	0.01	0.19			
WDV at end of Year	1.03	0.10	1.12			
Less : Depreciation	0.15	0.01	0.16			
WDV at end of Year	0.87	0.09	0.96			

						Interest	11.00%
	,					11101001	Closing
ear	Particulars	Amount	Addition	Total	Interest	Repayment	Balance
st	Opening Balance						
	1st month	-	2.56	2.56	-	-	2.56
	2nd month	2.56	-	2.56	0.02	-	2.56
	3rd month	2.56	-	2.56	0.02	-	2.56
	4th month	2.56	-	2.56	0.02	-	2.56
	5th month	2.56	-	2.56	0.02	-	2.56
	6th month	2.56	-	2.56	0.02	-	2.56
	7th month	2.56	-	2.56	0.02	0.05	2.51
	8th month	2.51	-	2.51	0.02	0.05	2.46
	9th month	2.46	-	2.46	0.02	0.05	2.41
	10th month	2.41	-	2.41	0.02	0.05	2.36
	11th month	2.36	-	2.36	0.02	0.05	2.31
	12th month	2.31	-	2.31	0.02	0.05	2.26
					0.25	0.30	
2nd	Opening Balance				0.20	0.00	
	1st month	2.26	-	2.26	0.02	0.05	2.21
	2nd month	2.21	-	2.21	0.02	0.05	2.16
	3rd month	2.16	-	2.16	0.02	0.05	2.11
	4th month	2.11	-	2.11	0.02	0.05	2.06
	5th month	2.06	-	2.06	0.02	0.05	2.01
	6th month	2.01	-	2.01	0.02	0.05	1.96
	7th month	1.96	-	1.96	0.02	0.05	1.91
	8th month	1.91	-	1.91	0.02	0.05	1.86
	9th month	1.86	-	1.86	0.02	0.05	1.81
	10th month	1.81	-	1.81	0.02	0.05	1.76
	11th month	1.76	-	1.76	0.02	0.05	1.71
	12th month	1.71	-	1.71	0.02	0.05	1.66
					0.22	0.60	
Brd	Opening Balance						
	1st month	1.66	_	1.66	0.02	0.05	1.61
	2nd month	1.61	_	1.61	0.01	0.05	1.56
	3rd month	1.56	_	1.56	0.01	0.05	1.51
	4th month	1.51	_	1.51	0.01	0.05	1.46
	5th month	1.46	_	1.46	0.01	0.05	1.41
	6th month	1.41	_	1.41	0.01	0.05	1.36
	7th month	1.36	_	1.36	0.01	0.05	1.31
	8th month	1.31	_	1.31	0.01	0.05	1.26
	9th month	1.26	_	1.26	0.01	0.05	1.20
	10th month	1.21	_	1.20	0.01	0.05	1.21
	11th month	1.16	<u>-</u>	1.16	0.01	0.05	1.10
	12th month	1.10	<u>-</u>	1.16	0.01	0.05	1.11
	1211111011111	1.11	-	1.11			1.00
					0.15	0.60	

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	1st month	1.06	-	1.06	0.01	0.05	1.01
	2nd month	1.01	-	1.01	0.01	0.05	0.96
	3rd month	0.96	-	0.96	0.01	0.05	0.91
	4th month	0.91	-	0.91	0.01	0.05	0.86
	5th month	0.86	-	0.86	0.01	0.05	0.81
	6th month	0.81	-	0.81	0.01	0.05	0.76
	7th month	0.76	-	0.76	0.01	0.05	0.71
	8th month	0.71	-	0.71	0.01	0.05	0.66
	9th month	0.66	-	0.66	0.01	0.05	0.61
	10th month	0.61	-	0.61	0.01	0.05	0.56
	11th month	0.56	-	0.56	0.01	0.05	0.51
	12th month	0.51	-	0.51	0.00	0.05	0.46
					0.09	0.60	
5th	Opening Balance						
	4	0.40		0.40	0.00	0.05	0.44
	1st month	0.46	-	0.46	0.00	0.05	0.41
	2nd month	0.41	-	0.41	0.00	0.05	0.36
	3rd month	0.36	-	0.36	0.00	0.05	0.31
	4th month	0.31	-	0.31	0.00	0.05	0.26
	5th month	0.26	-	0.26	0.00	0.05	0.21
	6th month	0.21	-	0.21	0.00	0.05	0.16
	7th month	0.17	-	0.17	0.00	0.05	0.11
	8th month	0.13	-	0.13	0.00	0.05	0.06
	9th month	0.09	-	0.09	0.00	0.05	0.01
	10th month	0.05	-	0.05	0.00	0.01	-
					0.02	0.46	
	DOOR TO DOOR		58	MONTHS			
	MORATORIUM PERIOD		6	MONTHS			
	REPAYMENT PERIO	J	52	MONTHS			



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