

1 DEHYDRATED ONION

1.1 Introduction

Onion is one of the most important commercial vegetable crops grown in India. Both immature and mature bulbs are used as vegetable and condiment. It contains vitamin B and a trace of vitamin C and also traces of iron and calcium. The outstanding characteristic of onion is its pungency, which is due to a volatile oil known as allyl-propyl disulphide. Onions compared with other fresh vegetable are relatively high in food energy, intermediate in protein content and rich in calcium and ribonflavin.

Onion is dried / dehydrated to largely increase its shelf life. Dehydrated onion is used mainly for making soup in Europe and USA.

1.2 Objective

The primary objective of the model report is to facilitate the entrepreneurs in understanding the importance of setting up unit of dehydrated onion. This model report will serve as guidance to the entrepreneurs on starting up such a new project and basic technical knowledge for setting up such a facility.

1.3 Raw Material Availability

The production of onion in Madhya Pradesh is quite significant. The area and production of onion in the state in different years is given in the table below:

Year	Area (Ha)	Prod (MT)
2003-04	31,001.00	465,015.00
2004-05	35,704.00	571,264.00

1.4 Suitable Location

The unit should be located near to the Maharashtra onion belt so that the availability of the raw material would not be problem.

1.5 Project description

Applications

- As condiment for cooking
- For vegetable and instant food
- Other application where true tomato color and flavor are required

Capacity of the Project

The rated capacity of the project is 300 MT per annum.

Manufacturing process

Raw onions are collected from market at the most economic prices. The onions should be ripe, matured and are kept in storage. The storage rooms and godowns are airy, well ventilated, dry and at low temperature. The cold storage is kept at 0-40C and RH 50 – 55%

The onions are then cleaned. Spray washers are used for cleaning the onions. The cleaned onions are surface dried by hot air and then the onions are peeled. Abrasion peeling method is used for peeling the onions. The peeled onions are then sliced by rotating blade slicers. The sliced onions are then dried or dehydrated. Drying is done in tunnel drier.

1.6 Project component and cost

Major components of the projects and their costs are described in the table hereunder:

1.7 Land and Building

Particulars	Unit	Qty	Cost/unit	Total
LAND & BUILDING				41.75
Land	SqM	800	250.00	2.00
Land Development				
Land Area		800	500.00	4.00
Building				
Production Block				
Main Production Area	SqM	500	5,000.00	25.00
Store cum packing room & Sales Counter	SqM	150	5,000.00	7.50
Contingencies		10%		3.25
PLANT & MACHINERY				60.00
Plant and Machinery	LS	1	5000000	50.00
Contingencies		20%		10.00
MISCELLANEOUS FIXED ASSETS				9.00
Misc. Assets	LS	1	750,000	7.50
Contingencies		20%		1.50
PRE-OPERATIVE EXPENSES				17.79
Establishment		1	1,039,000	10.39
Professional Charges		1	100,000	1.00
Security Deposits		1	640,000	6.40
TOTAL				128.54

1.8 Plant and Machinery

The total cost of the plant and machinery is Rs. 60 Lakhs.

1.9 Building

The main production block will cost around Rs. 35.75 lakhs.

1.10 Miscellaneous Assets

A provision of Rs. 9 lakhs would take care of all the requirements.

1.11 Preliminary & Pre-operative Expenses

A provision of Rs. 17.79 lakhs would take care of pre-production expenses like establishment, professional charges, security deposits etc.

1.12 Working capital assessment

ITEMS	Year 1	Year 3	Year 5
STOCK OF RAW MATERIAL & PACKING MATERIAL	3.11	5.19	5.19
SUNDRY DEBTORS	22.50	37.50	37.50
TOTAL	25.61	42.69	42.69
MARGIN	6.40	10.67	10.67
MPBF	19.21	32.02	32.02
INTEREST ON WC	2.11	3.52	3.52

1.13 Means of finance

EQUITY CAPITAL			35.00%	47.23
MOFPI SUBSIDY	25%	50.00	25.00%	33.74
TERM LOAN				
FINANANCIAL INSTITUTIONS		10.00%	40.00%	53.98
<i>-Payable half yearly Installments</i>	10	5.40		
TOTAL			100%	134.94

1.14 Cash flow statement

PARTICULARS	Year 1	Year 3	Year 5	Year 7
SOURCES OF FUNDS				
EQUITY CAPITAL	-	-	-	-
SUBSIDY				
NET PROFIT	0.96	29.74	26.96	21.57
(INTEREST ADDED BACK)				
DEPRECIATION	8.13	8.13	8.13	8.13
PRELIMINARY EXP.W/O	2.54	2.54	2.54	2.54
INCREASE IN TERM LOAN	-	-	-	-
INCREASE IN BANK BORROWINGS-WC	19.21	8.00	-	-
TOTAL	30.84	48.42	37.64	32.25

1.15 Projected balance sheet

PARTICULARS	Year 1	Year 3	Year 5	Year 7
LIABILITIES				
EQUITY CAPITAL	47.23	47.23	47.23	47.23
RESERVES & SURPLUS	27.19	52.21	96.49	133.62
TERM LOAN	48.58	26.98	5.38	(0.00)
BANK BORROWINGS-WC	19.21	32.02	32.02	32.02
TOTAL	142.20	158.44	181.12	212.86

1.16 Projected profit and loss account

Particulars	Year 1	Year 3	Year 5	Year 7
INCOME	120.00	200.00	200.00	200.00
EXPENDITURE	108.37	159.59	162.36	167.75
VARIABLE	69.63	106.79	106.79	109.66
FIXED	38.73	52.80	55.58	58.10
GROSS PROFIT	11.63	40.41	37.64	32.25
PROFIT BEFORE TAX	(6.55)	22.71	22.09	18.05
RETAINED PROFIT	(6.55)	22.71	22.09	18.05

1.17 Key indicators

NET PRESENT VALUE at current Inflation (Rs. in lakhs)	147.88
INTERNAL RATE OF RETURN %	24.03
AVERAGE DSCR	2.27
BREAK EVEN POINT %	80.02
PAY BACK PERIOD (YEARS)	4.45

1.18 Manpower Requirement

PARTICULARS	NO.
SUPERVISORY STAFF	
ADMN/MKTG OFFICER & ACCOUNTANT	3
PRODUCTION SUPERVISORS	2
ADMINISTRATIVE STAFF	
MAINTENANCE SUPERVISOR	1
SKILLED WORKERS	6
SEMI-SKILLED LABOUR	10

1.19 Assumptions

Project & Financing			
Contingencies on Building			10%
Contingencies on Equipment			20%
Term Loan			40%
Rate of Interest on Term Loan			10%
Subsidy Considered	Subject to ceiling		25%
Expected time of Installation		Months	10
Moratorium		Months	6
CAPACITY			
Rated Capacity Per Annum	90% of Installed capacity	TPA	200
Number of Operational Days	DAYS		240
Working Hours Per day	Hrs		14
CAPACITY UTILIZATION			
Year I			60%
Year II			75%
Year III			100%
SALES PRICE			
W S Price			1,00,000
OTHER EXPENSE			
Commission			10.0%
Marketing Expenses			2.5%
POWER			
Connected Load	HP		240

DEPRICIATION AS PER COMPANY'S ACT	
BUILDING	3.34%
PLANT & MACHINERY	10.34%
MISC. FIXED ASSETS	7.07%
LAND & SITE DEVELOPMENT	1.63%
MAINTENANCE	
BUILDING	1.00%
PLANT & MACHINERY	3.00%
MISC. FIXED ASSETS	2.00%
LAND & SITE DEVELOPMENT	1.00%

The actual cost of projects may deviate on change of any of the assumptions.