

CITRAL & DERIVATIVES

1. INTRODUCTION

The large variations in soil, climate attitude and other natural conditions in India and its vast land area are ideal for growing a large range of oil bring plants. Lemon grass is mainly grown in Northern and Central Kerala. citral or Aliphatic terpene aldehyde ($C_{10}H_{16}O$) content in lemon grass oil is about 80% . Citral has a powerful lemon odour. It is commonly used in flavour like apple grape, orange, lime and strawberry .

2. RAW MATERIALS

Lemon grass

3. MANUFACTURING PROCESS

The long leaves of lemongrass are put in a cutter mill for size reduction, which is then loaded in a steam distillation column to extract oil. The condensate is then put in oil separator and oil is separated.

Citral is processed from oil by treating with 35% solution of sodium bisulphite with constant stirring in a reactor. It is then treated with sodium carbonate and brought to alkaline P^H . It is then refluxed with ether for extraction of citral.

4. MANPOWER REQUIREMENT : 16

5. PROJECT COST

	(Rs. in lakhs)
1 Land	5.00
2 Building	20.00
3 Plant & machinery	30.00
4 Miscellaneous fixed assets	5.00
5 Preliminary /pre-operative expenses	5.00
6. Contingency	6.00
7 Margin money for working capital	4.00
Cost of project	75.00

MEANS OF FINANCE

	(Rs. lakh)
Long term loan	50.00
Equity	25.00
	75.00

6. COST OF PRODUCTION

Cost of production	52.00
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7. PROFITABILITY

Expected sales	72.00
Profit before tax	20.00
Return on investment	26.6%

Market potential :

Lemon grass oil has both indigenous as well as export market. India is an exporter of certain varieties of oil as well as importer of some other type of lemongrass oil.

Production capacity : 30 TPA Lemon grass oil

List of Plant, Machinery & equipment :

1. Steam Distillation coloum
 - 2 Boiler
 - 3 Oil Separator
 - 4 Reactors
 - 5 Storage tanks
 - 6 Chilling plant
 - 7 Cutter mill.
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