

PASTEURIZED MILK



INTRODUCTION:

Milk, a natural liquid food, is one of our most nutritionally complete foods. It is a white liquid produced by the mammary glands of mammals. It is the primary source of nutrition for young mammals before they are able to digest other types of food. It has full of nutrition. It is an agricultural product, milk is extracted from cow, buffalo, goat, sheep, camel and other mammalian and used as food for humans. It is produced worldwide. India is the largest producer and consumer of milk and milk product world-wide.

Indian dairy industries make rapid progress since independence. A large number of milk and milk product plant is established, but the milk consumptions very low (130gm) in India is as compared to America (254gm).

OBJECTIVE:

Even India is the largest producer and consumer of milk and milk product, having 2nd largest population in the world. Our main target has to produce cheap, quality full milk and milk product to the consumers using technology and also produce different type of flavoured milk product using various fruits and natural additives

RAW MATERIAL AVAILABILITY:

The main raw material is milk and easily available across India.

SUITABLE LOCATION:

Pasteurized Milk can be manufactured at any location which is near to the market.

MARKET OPPORTUNITIES:

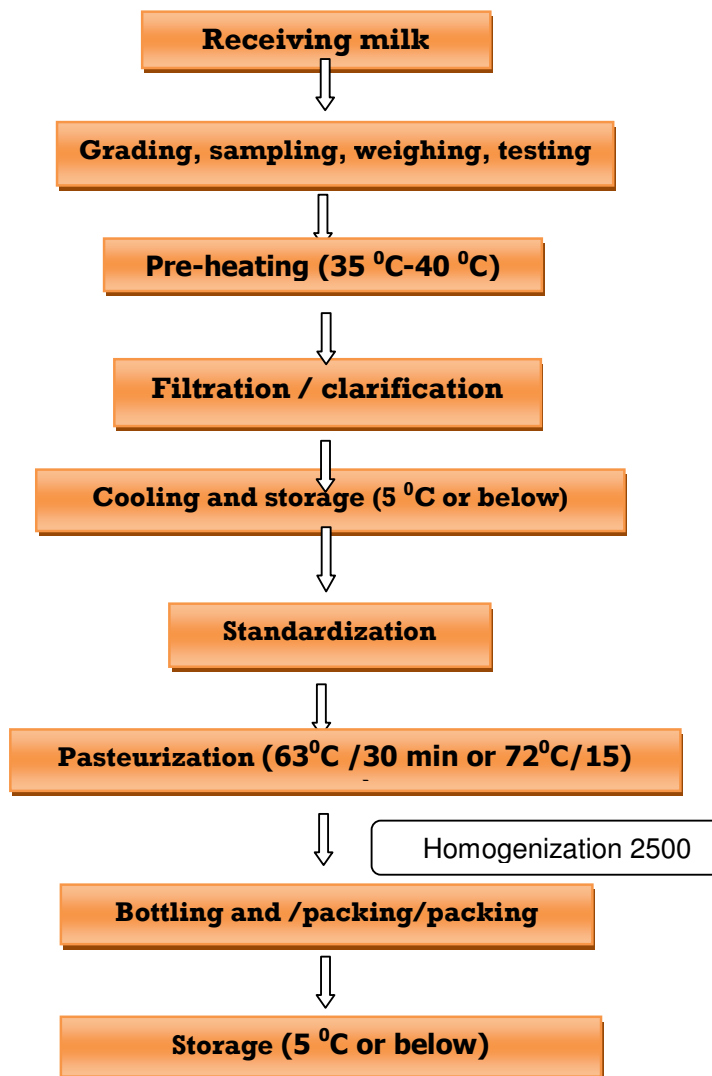
Milk production in India has developed significantly in the past few decades from a low volume of 17 million tons in 1951 to 120 million tonnes in 2009. Currently, the Indian dairy market is growing at an annual rate of 7%. Despite the increase in production, a demand supply gap has become imminent in the dairy industry due to the changing consumption habits, dynamic demographic patterns, and the rapid urbanization of rural India. This means that there is an urgent need for the growth rate of the dairy sector to match the rapidly growing Indian economy.

Dairy production in India runs on a low input-low output system, in which individual producers typically own less than five cattle or buffalo and use locally available feeds. This has resulted in yield levels that are below international averages but also the world's lowest production costs. As dairy product prices and income from milk collection continue to increase, farmers are slowly growing herd sizes and increasing their specialization. In addition, interests from private sector investors have also facilitated construction of larger dairies through partnering with dairy processors.

MANUFACTURING PROCESS:

The requirements for proper pasteurization and handling of milk are:
A good compromise for pasteurization is to heat the milk to 165°F (74°C) in a double boiler and to hold it at this temperature for 15 seconds while stirring constantly. Then, cool it immediately while stirring to 145°F (63°C) by setting the top of the double boiler in cold water. Add ice to the cooling water to cool the milk further, stirring occasionally until the temperature of the milk falls below 40°F (4°C). Store the cooled milk in clean, covered containers and keep it at a temperature below 40°F (4°C) until used. This is the preferred method over the 30-minute/150°F (63°C) method because if at any time during the 30-minute period the temperature drops below 150°F (63°C), the milk must be reheated for 30 consecutive minutes. Another method is using jars for 30 minutes in a water bath canner, again, provided care is taken to maintain the temperature at 150°F (63°C), and the milk is promptly cooled to 40°F (4°C) or less. All stirring devices, thermometers, or any other utensil that comes in contact with the milk must remain in the milk for the entire process—do not remove them at any time during the process—to prevent contamination.

Flow Chart of Milk Pasteurization



CAPACITY OF THE PROJECT:

- The total capacity of the unit is to process 2040 KL milk per year.

PRODUCTION TARGETS (PER ANNUM):

- The scheme is worked out per shift (8 Hour) basis and 300 working days per annum.
- Assume there'll be 70% production in first year.
- Quantity: 1428 KL milk processes per year or 119 KL per month.

PROJECT COMPONENT AND COST:**FINANCIAL ASPECTS:-****APPLICATION OF FUNDS****SOURCE OF FUND**

| Particular | Amount | Particular | Amount |
|---|----------------------|--------------------------|----------------------|
| Land : 700 sq. meter total area | | Own Capital | 4,108,590.56 |
| Building : 400 sq. meter covered area on rent | | Loan from Banks | 5,786,250.00 |
| Plant & Machinery | 7,645,000.00 | Loan for Working Capital | 3,356,596.68 |
| Office Equipment & Furniture | 70,000.00 | | |
| Working Capital | 5,511,437.24 | | |
| Pre-Operative Expenses | 25,000.00 | | |
| Total | 13,251,437.24 | Total | 13,251,437.24 |

FIXED ASSETS

| (1) | Land And Building: | | | Value (Rs.) |
|--------------------------------|--|------|------------|-------------------|
| | Land 700 sq. meter total area and & 400 sq. meter covered area on rent | | | 360,000 per annum |
| (2) | Machinery And Equipment: | | | |
| S. N. | Description (Name of machine with specification) | Qty. | Rate | Value (Rs.) |
| Production Unit | | | | |
| MILK RECEPTION SECTION | | | | |
| i | Roller Conveyor | 1 | 30,000.00 | 30,000.00 |
| ii | Can Tipping Bar | 1 | 10,000.00 | 10,000.00 |
| iii | Weighing Scale | 1 | 100,000.00 | 100,000.00 |
| iv | Dump Tank: 1000 L | 1 | 100,000.00 | 100,000.00 |
| v | Disc Type Strainer | 2 | 25,000.00 | 50,000.00 |
| vi | Can Drip Saver | 1 | 20,000.00 | 20,000.00 |
| vii | Can Scrubber | 1 | 90,000.00 | 90,000.00 |
| viii | Can Steaming Block | 1 | 20,000.00 | 20,000.00 |
| ix | Storage Tank: 1000 L | 2 | 90,000.00 | 180,000.00 |
| MILK PROCESSING SECTION | | | | |
| x | Pasteurization Plant: 1000 LPH | 1 | 800,000.00 | 800,000.00 |
| xi | Homogenizer: 1000 LPH | 1 | 600,000.00 | 600,000.00 |
| xii | Chiller | 1 | 300,000.00 | 300,000.00 |
| xiii | CIP System: Semi-Automatic | 1 | 900,000.00 | 900,000.00 |

| | | | | |
|---|---|---|------------|---------------------|
| xiv | Pump | 4 | 40,000.00 | 160,000.00 |
| xv | Packaging Machine | 1 | 600,000.00 | 600,000.00 |
| BY PRODUCT SECTION | | | | |
| xvi | Cream Separator | 1 | 600,000.00 | 600,000.00 |
| xvii | Cream Pasteurizer | 1 | 300,000.00 | 300,000.00 |
| xviii | Storage Tank: 500 L | 1 | 90,000.00 | 90,000.00 |
| xix | Cream Packaging Machine | 1 | 300,000.00 | 300,000.00 |
| UTILITIES SECTION | | | | |
| xx | Boiler: 500 Kg/Hr | 1 | 800,000.00 | 800,000.00 |
| xxi | DG Set: Cap 60 KVA | 1 | 500,000.00 | 500,000.00 |
| xxii | Miscellaneous Equipments (pipe & fittings, perforated ladle etc.) | | - | 400,000.00 |
| Total Cost of Machinery & Equipments | | | - | 6,950,000.00 |
| Electrification & Installation Charges @ 10% | | | - | 695,000.00 |
| Total Cost of Production Unit | | | - | 7,645,000.00 |
| Furniture & Fixtures | | | - | 70,000.00 |
| (3) | Pre-Operative Expenses: | | - | 25,000.00 |
| Total Fixed Capital (2+3) | | | - | 7,670,000.00 |

SALES TURNOVER PER MONTH

| Description | Qty. (Kg.) | Rate (Rs. /Kg.) | Value (Rs.) |
|--------------------|-----------------------|----------------------------|------------------------|
| Full cream milk | 65,450.00 | 40.00 | 2,618,000.00 |
| Toned milk | 35,700.00 | 30.00 | 1,071,000.00 |
| Double toned milk | 11,900.00 | 27.00 | 321,300.00 |
| Cream | 892.50 | 190.00 | 169,575.00 |
| Total | | | 4,179,875.00 |

RAW MATERIAL REQUIREMENT & STOCK

Raw Material (per month):

| Description with specification | Qty. (Kg.) | Rate (Rs. /Kg.) | Value (Rs.) |
|---------------------------------------|-----------------------|----------------------------|---------------------|
| Milk | 119,000.00 | 29.00 | 3,451,000.00 |
| Laboratory Chemicals | - | - | 2,000.00 |
| Total | | | 3,453,000.00 |

ANNUAL CONSUMPTION

| | | |
|-------------------------------|---------|----------------------|
| Milk | Rs | 41,412,000.00 |
| Laboratory Chemicals | Rs | 24,000.00 |
| Total | | 41,436,000.00 |
| Stock of Raw Material | 30 Days | 3,405,698.63 |
| Stock of WIP | 02 Days | 226,915.07 |
| Purchase Cost of Raw Material | Rs | 45,068,613.70 |

WORKING CAPITAL REQUIREMENT

| Particulars | Days | Year' 1 |
|----------------------------|-------------|---------------------|
| Raw Material | 30 | 3,405,698.63 |
| Work in Process | 2 | 226,915.07 |
| Finished Goods | 10 | 1,254,666.35 |
| Receivables | 30 | 4,179,875.00 |
| Advance/Security | | 200,000.00 |
| Total | | 9,267,155.05 |
| Less: Creditors | 30 | 3,755,717.81 |
| Net Current Assets | | 5,511,437.24 |
| Paid Stock | | 1,131,562.24 |
| 75% of Paid Stock | | 848,671.68 |
| 60% of Book Debts | | 2,507,925.00 |
| Bank Limits | | 3,356,596.68 |
| Margin for Working Capital | | 2,154,840.56 |

SELLING & ADMINISTRATION EXPENSES

| Particular | Year I |
|----------------------------------|-------------------|
| i Postage | 15,000.00 |
| ii Commission on sales | 60,000.00 |
| iii Office Expenses | 48,000.00 |
| iv Tour & Travel | 60,000.00 |
| v Printing & Stationary | 20,000.00 |
| vi Advertisement | 200,000.00 |
| vii Telephone | 50,000.00 |
| viii Repair & Maintenance | 60,000.00 |
| ix Conveyance | 60,000.00 |
| x Sales expenses | 70,000.00 |
| xi Insurance | 40,000.00 |
| xii Misc. Expenses | 14,000.00 |
| Total | 697,000.00 |

STAFF AND LABOUR EXPENSES

| S. No. | Description | No. | Salary | Total Salaries-Year I |
|--|---------------------|------------|---------------|------------------------------|
| (a) Administrative & Supervisory | | | | |
| i | Production Manager | 1 | 15,000.00 | 180000.00 |
| ii | Accountant | 1 | 10,000.00 | 120,000.00 |
| iii | Salesman | 2 | 8,000.00 | 192,000.00 |
| iv | Peon/watchman | 1 | 5,000.00 | 60,000.00 |
| v | Sweeper | 1 | 5,000.00 | 60000.00 |
| Total Salaries | | | | 612,000.00 |
| (b) Technical Skilled & Unskilled | | | | |
| i | Skilled Worker | 1 | 10,000.00 | 120,000.00 |
| ii | Semi Skilled Worker | 1 | 8,000.00 | 96,000.00 |
| iii | Helper | 2 | 5,000.00 | 120,000.00 |
| Total Wages | | | | 336,000.00 |
| Grand Total | | | | 948,000.00 |

**MANUFACTURING AND PROFIT & LOSS
ACCOUNT**

| Particulars | Year' 1 |
|---|----------------------|
| Sales Value of Pasteurized Milk and Cream as a by-product | 50,158,500.00 |
| Cost of Production: | |
| Raw Material Consumed: | |
| Opening Stock | - |
| Add: Purchases | 45,068,613.70 |
| | 45,068,613.70 |
| Less: Closing Stock | 3,405,698.63 |
| Raw Material Consumption | 41,662,915.07 |
| Add: Op Stock of WIP | - |
| | 41,662,915.07 |
| Less: Cl Stock of WIP | 226,915.07 |
| | 41,436,000.00 |
| Power & Fuel | 1,000,000.00 |
| Manufacturing Wages | 336,000.00 |
| Bonus & Incentives | 20,160.00 |
| Packaging Materials | 957,117.00 |
| Rent | 360,000.00 |
| Raw material storage & ins. Cost | 16,800.00 |
| Carriage inward | 270,411.68 |
| Depreciation | 771,500.00 |
| Total Cost of Production | 45,167,988.68 |
| Add: Op. Stock of Finish. Goods | - |
| | 45,167,988.68 |
| Less: Cls. Stock of F. Goods | 1,254,666.35 |
| Cost of Sales | 43,913,322.33 |
| Gross Profit | 6,245,177.67 |
| | 0.12 |
| Selling & Admin Cost: | |
| Expenses | 697,000.00 |
| Salary | 612,000.00 |
| Financial Expenses | |
| Interest on Term Loan | 683,259.69 |
| Interest on W. Capital | 419,574.59 |
| Pre. Expenses | 5,000.00 |
| Profit Before Taxation | 3,828,343.40 |
| Taxation | 1,148,503.02 |
| Net Profit After Taxation | 2,679,840.38 |
| Cash withdrawal | 1,071,936.15 |
| Transfer to Reserves | 1,607,904.23 |
| Cumulative Reserves | 1,607,904.23 |
| % of PBT on Sales | 7.63 |

BALANCE SHEET

| Particulars | Year' 1 |
|----------------------|----------------------|
| Liabilities: | |
| Capital | 4,108,590.56 |
| Reserve & Surplus | 1,607,904.23 |
| Secured Loan: | |
| Term Loan | 4,629,000.00 |
| Unsecured loan: | |
| Current Liabilities: | |
| Bank Borrowings | 3,356,596.68 |
| Sundry Creditors | 3,755,717.81 |
| | <u>17,457,809.28</u> |
| Assets: | |
| Fixed Assets: | |
| Gross Block: | 7,715,000.00 |
| Less: Depreciation | 771,500.00 |
| | 6,943,500.00 |
| Current Assets: | |
| Inventories | 4,887,280.05 |
| Receivables | 4,179,875.00 |
| Advance/Security | 200,000.00 |
| Cash & Bank Balance | 1,227,154.23 |
| Preliminary Expenses | 20,000.00 |
| | <u>17,457,809.28</u> |
| Difference | 0.00 |

RATIO ANALYSIS

| Particulars | Year' 1 |
|-------------------------|----------------|
| Net Profit ratio | |
| NP*100/Total sales | 5.34 |
| Rate of Return | |
| NP*100/Total Investment | 20.22 |

BREAK EVEN ANALYSIS

| Fixed Cost | |
|-------------------------|---|
| Rent | 360,000.00 |
| Interest on Borrowing | 683,259.69 |
| 40% of Salaries | 244,800.00 |
| 40% of Utilities | 400,000.00 |
| 25% of Admin Exp | 174,250.00 |
| Depreciation | 771,500.00 |
| Total | 2,633,809.69 |
| Break Even Point | $\frac{\text{Fixed Cost} * 100}{\text{Fixed Cost} + \text{Profit}}$ |
| | 49.57 |

ADDRESS OF MACHINERY & EQUIPMENT SUPPLIERS:

- M/s Bajaj Processpack Maschinen Pvt. Ltd., 7/27, Jai Lakshmi Industrial Estate, Sahibabad Industrial Area, Sahibabad, Dist. Ghaziabad (U.P.) - 201301.
- M/s Jaya Industries, No. 543, Jessore Road, Kolkata - 700 028, West Bengal, India.
- M/s Food & Biotech Engineers (I) Pvt. Ltd., Chaprola Road, Prithla, Tehsil- Palwal Distt. - Palwal, Pin: 121102 Haryana (India).
- M/s Filtron Engineers Ltd., 6, Sitabaug Colony, Sinhagad Road, Pune – 411030 (Mahaeashtra).
- M/s Eskimo Refrigeration Industries, S. No. 85/1, Shree Shankar Nagar, B-Building, Ground Floor, Poud Road, Kothrud, Pune - 411038, Maharashtra, India.
- M/s Om Metals & Engineers, S. No. 5, Ekata Hsg. Society, Bapujibuwa Nagar, Thergaon, Pune - 411 033, Maharashtra, India.