



DATE PROCESSING AND PACKING

1.0 INTRODUCTION:

Dates have been cultivated since ancient times. Date palms thrive under the rigorous climate of sub-tropical desert. Date processing enjoys a high economic importance in the world. Dates have nutritive values and are consumed in large quantity in all parts of the country. Kachchh region of Gujarat produces good quality dates and there is a very good scope to set up facility for processing and packing of dates at a suitable location. Date processing technology has improved during last few years, which has made it possible to process them hygienically. This technology has made it possible to produce a marketable product which can easily be handled, transported, stored and packed in attractive packing before sale.

2.0 PRODUCT

2.1 Applications

It is proposed to clean dates in the most hygienic conditions and to market the processed dates in various attractive packages of 1/2 kgs, 1 kg and 2 kgs and 20 kgs bulk packings at the most economical prices in India. The preferred location will be Kuchchh region of Gujarat which produces good quality dates.

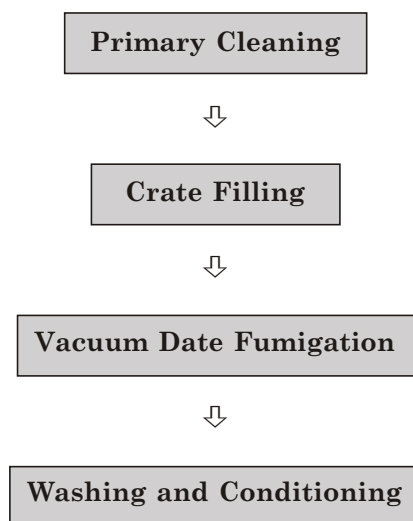
2.2 Compliances with the provisions of the FPO and PFA Act are mandatory.

3.0 MARKET POTENTIAL

A date processing and packing unit can be set up in rural areas, where intensive date palm cultivation exists and labour is cheap and available in the season. With more and more awareness about health, number of people have started consuming dates regularly. Apart from direct consumption, they are also used to make some other preparations and some sweet items are made from them. The market is confined mainly to urban and semi-urban areas but it is growing very rapidly. There is not much competition in this line and proper selling network, adequate publicity and consistency in quality shall be the important aspects.

4.0 MANUFACTURING PROCESS

Ripe and uniform sized dates are selected for processing purpose. The date processing covers four main activities.



The process is not only standardized but is very simple.

5.0 CAPITAL INPUTS

5.1 Land and Buildings

A plot of land of about 600 sq.mtrs. shall be needed which would cost around Rs. 1.80 lacs. The built-up area requirement will be 350 sq.mtrs. and considering construction rate of Rs.2,500/sq.mtr., the total cost would be Rs.8.75 lacs. A provision of borewell would mean additional expenditure of Rs.3.50 lacs and underground and overhead water storage tanks of 5,000 ltrs. capacity would cost another Rs.1.00 lac.

5.2 Plant and Machinery

It is suggested to install date processing and packing plant of 600 tonnes during season of about 8 months and 2 shift working every day.

The total cost of machinery is likely to be Rs.45.00 lacs as explained under: (Rs. in lacs)

| Item | Qty | Value |
|---|--------------|--------------|
| Primary Cleaning Line | 1 | 10.00 |
| Washing/ conditioning Machine | 2 | 5.00 |
| Conveyors | -- | 7.50 |
| Bulk Packing Line | 1 | 4.00 |
| Thermo pack Line | 1 | 5.00 |
| Pitting/Pressing Line | 1 | 6.00 |
| Electrification and Installation | -- | 5.00 |
| Plastic Crates | 1500 | 1.50 |
| SS Vessels, plastic tubs, Lab. Equipments | -- | 1.00 |
| | Total | 45.00 |

5.3 Miscellaneous Assets:

Other assets like tools and equipments, structure and handling equipments, tables, chairs, storage racks in the factory etc shall be required, which would cost about Rs.12.00 lacs.

5.4 Utilities

Total power requirement shall be 50 HP whereas daily water requirement shall be around 10,000 ltrs. for which a provision of borewell has been made.

5.5 Raw and Packing Materials

The main raw material required are ripe date bunches from which good quality, uniform size dates are selected for processing and packing. The unit should enter into contract with established date farms to ensure adequate and timely supply of quality dates at the factory. Printed polythene bags and corrugated boxes, labels and BOPP tape shall be the packing material.

6.0 MANPOWER REQUIREMENTS

| Particulars | No | Monthly Salary (Rs.) | Total Monthly Salary (Rs.) |
|----------------------|----|----------------------|----------------------------|
| Skilled Workers | 2 | 2,500 | 5,000 |
| Semi-skilled Workers | 2 | 1,750 | 3,500 |
| Unskilled Workers | 10 | 1,250 | 12,500 |
| Salesman | 1 | 2,500 | 2,500 |
| Clerk | 1 | 2,500 | 2,500 |
| | | Total | 26,000 |

7.0 TENTATIVE IMPLEMENTATION SCHEDULE

| Activity | Period (in months) |
|--|--------------------|
| Application and sanction of loan | 2 |
| Site selection and commencement of civil work | 2 |
| Completion of civil work and placement of orders for machinery | 6 |
| Erection, installation and trial runs | 2 |

8.0 DETAILS OF THE PROPOSED PROJECT

8.1 Land and Building

(Rs. in lacs)

| Particulars | Area (Sq.Mtrs) | Cost |
|--------------------------|----------------|--------------|
| Land | 600 | 1.80 |
| Building | 350 | 8.75 |
| Borewell and Water Tanks | -- | 4.50 |
| | Total | 15.05 |

8.2 Plant and Machinery

The total cost of machinery is estimated to be Rs.45 lacs, as explained earlier.

8.3 Miscellaneous Assets

The provision for miscellaneous assets of Rs. 12.00 lacs shall be adequate as explained earlier.

8.4 Preliminary and Pre-Operative Expenses:

The registration charges, establishment expenses, trial run expenses, interest during implementation etc would be around Rs.8 lacs.

8.5 Working Capital Requirement

At 60% utilization in the first year, the total working capital needs shall be as under:

(Rs. in lacs)

| Particulars | Period | Margin | Total | Bank | Promoters |
|------------------------------------|---------|--------------|--------------|-------------|-------------|
| Stock of Raw and Packing Materials | ½ Month | 30% | 2.50 | 1.75 | 0.75 |
| Stock of Finished Goods | ½ Month | 25% | 3.00 | 2.25 | 0.75 |
| Receivables | ½ Month | 25% | 5.25 | 3.95 | 1.30 |
| Working Expenses | 1 Month | 100% | 1.50 | -- | 1.50 |
| | | Total | 12.25 | 7.95 | 4.30 |

8.6 Cost of the Project and Means of Financing:

(Rs. in lacs)

| Items | Amount |
|--|--------------|
| Land and Buildings | 15.05 |
| Plant and Machinery | 45.00 |
| Miscellaneous Assets | 12.00 |
| Preliminary and Pre-operative Expenses | 8.00 |
| Contingencies @ 10% on land and building and machinery | 6.00 |
| Working Capital Margin | 4.30 |
| Total | 90.35 |
| Means of Finance | |
| Promoter's Contribution | 28.35 |
| Bank Loan/ Financial Institutions | 62.00 |
| Total | 90.35 |
| Debt Equity Ratio | 2.19 : 1 |
| Promoters' Contribution | 31% |

Financial assistance in the form of grant is available from the Ministry of Food Processing Industries, Govt. of India, towards expenditure on technical civil works and plant and machinery for eligible projects subject to certain terms and conditions.

7.0 PROFITABILITY CALCULATIONS

9.1 Production Capacity and Build-up:

The installed production capacity of the proposed unit would be 600 tonnes during every season and the expected utilisation is 60% in first year and 75% thereafter.

9.2 Sales Revenue at 100% Capacity

(Rs. in lacs)

| Product | Qty. Tonnes | Selling Price Per Ton/Rs. | Value |
|-----------------|-------------|---------------------------|--------|
| Processed Dates | 600 | 35,000 | 210.00 |

9.3 Raw and Packing Materials Required at 100%

(Rs. in lacs)

| Product | Quantity Tonnes | Rate Ton | Value |
|--------------------------------------|-----------------|--------------|--------------|
| Date Bunches | 750 | 12,000 | 90.00 |
| Cost of Packing Materials @ 1500/Ton | -- | -- | 9.00 |
| | | Total | 99.00 |

9.4 Utilities

The per season cost of utilities at 100% activity level would be Rs.5.00 lacs.

9.5 Interest

The interest on term loan of Rs. 62 lacs has been calculated @ 14% per annum assuming repayment in 6 years including a moratorium period of 1 year, whereas interest on working capital would be 14% per annum.

9.6 Depreciation

It has been calculated on WDV basis @ 10% on building and 15% on machinery and other assets.

9.7 Selling Expenses

A provision of 20% of sales income has been made every year towards transportation, selling commission, advertisement etc.

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

| No | Particulars | 1st Year | 2nd Year |
|-----------|--|-----------------------|----------|
| A | Installed Capacity | ---600 MTA --- | |
| | Capacity Utilisation | 60% | 75% |
| | Sales Realization | 126.00 | 157.50 |
| B. | Cost of Production | | |
| | Raw and Packing Materials | 59.40 | 74.25 |
| | Utilities | 3.00 | 3.75 |
| | Salaries | 3.12 | 3.60 |
| | Stores and Spares | 1.80 | 2.40 |
| | Repairs and Maintenance | 2.10 | 2.70 |
| | Selling Expenses @ 20% | 25.20 | 31.50 |
| | Administrative Expenses | 2.00 | 3.00 |
| | Total 96.62 | 121.20 | |
| C. | Profit before Interest & Depreciation | 29.38 | 36.30 |
| | Interest on Term Loan | 8.12 | 6.90 |
| | Interest on Working Capital | 1.12 | 1.40 |
| | Depreciation | 9.87 | 8.46 |
| | Net Profit | 10.27 | 19.54 |
| | Income-tax @ 20% | 2.55 | 3.94 |
| | Profit after Tax | 7.72 | 15.60 |
| | Cash Accrual | 17.59 | 24.06 |
| | Repayment of Term Loan | -- | 11.60 |

11.0 BREAK-EVEN POINT ANALYSIS

(Rs. in lacs)

| No. | Particulars | Amount | |
|-----------|---------------------------------|--------|---------------|
| A | Sales | | 126.00 |
| B | Variable Cost | | |
| | Raw and Packing Materials | 59.40 | |
| | Utilities (70%) | 2.10 | |
| | Salaries (70%) | 2.18 | |
| | Stores and Spares | 1.80 | |
| | Selling Expenses (70%) | 17.64 | |
| | Administrative Expenses (50%) | 1.00 | |
| | Interest on working capital | 1.12 | |
| | Total | | 85.24 |
| C | Contribution (A - B) | | 40.76 |
| D. | Fixed Cost | | 24.49 |
| E. | Break Even Point (D ÷ C) | | 60% |

12.0 [A] LEVERAGES

Financial leverage

$$= \text{EBIT/EBT}$$

$$= 19.51 \div 10.27$$

$$= 1.90$$

Operating Leverage

$$= \text{Contribution / EBT}$$

$$= 40.76 \div 10.27$$

$$= 3.97$$

Degree of Total Leverage

$$= \text{FL/OL}$$

$$= 1.90 \div 3.97$$

$$= 0.48$$

[B] Debt Service Coverage Ratio (DSCR)

(Rs in lacs)

| Particulars | 1st Yr | 2nd Yr | 3rd Yr | 4th Yr | 5th Yr | 6th Yr |
|-----------------------|-------------------------|--------------|--------------|--------------|--------------|--------------|
| Cash Accruals | 17.59 | 24.06 | 26.03 | 27.85 | 30.05 | 32.57 |
| Interest on TL | 8.12 | 6.90 | 5.28 | 3.65 | 2.03 | 1.12 |
| Total [A] | 25.71 | 30.96 | 31.31 | 31.50 | 32.08 | 33.69 |
| Interest on TL | 8.12 | 6.90 | 5.28 | 3.65 | 2.03 | 1.12 |
| Repayment of TL | -- | 12.40 | 12.40 | 12.40 | 12.40 | 12.40 |
| Total [B] | 8.12 | 19.30 | 17.68 | 16.05 | 14.43 | 13.52 |
| DSCR [A] ÷ [B] | 3.17 | 1.60 | 1.77 | 1.96 | 2.22 | 2.49 |
| Average DSCR | ----- 2.20 ----- | | | | | |

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 90.35 lacs.

(Rs. in lacs)

| Year | Cash Accruals | 16% | 18% | 20% |
|------|---------------|---------------|--------------|--------------|
| 1 | 17.59 | 15.16 | 14.90 | 14.65 |
| 2 | 24.06 | 17.88 | 17.28 | 16.70 |
| 3 | 26.03 | 16.69 | 15.85 | 15.07 |
| 4 | 27.85 | 15.37 | 14.37 | 13.42 |
| 5 | 30.05 | 14.30 | 13.13 | 12.08 |
| 6 | 32.57 | 13.35 | 12.05 | 10.91 |
| 7 | 34.08 | 12.06 | 10.70 | 9.51 |
| | 192.23 | 104.81 | 98.28 | 92.34 |

The IRR is around 19%.

Some of the machinery suppliers are

1. Forsberge Agritech (I) Ltd, Makarpur GIDC, Vadodara
2. Apurva Engg Works, Boriwali, Mumbai 400 098
3. International Food Machinery Corporation, Opp. Deepbhavan, Pt. Nehru Marg, Jamnagar-361008
4. Sahyog Steel Fabrication, 28, Bhojrajpara, Gondal-360311. Tel No. 224075
5. Techno Equipments, 31 Parekh Street, Girgaum, Mumbai 400 004
6. FMC Technology Hong Kong Ltd, 2 Bhubaneshwar Housing Society, Pashan Road, Pane 411 008. Ph: 25893700. Fax: 25893701