APPENDIX 3

Cost of production of foam dried muskmelon powder

Capacity of the continuous type foam mat dryer = 4 kg / day
Cost of the unit (C) = Rs. 75,000/-
Life span of the unit (n) = 15 years
Annual usage (A) = 300 days
Interest rate (i) = 10.5 % per annum
Energy requirement (motor + heating coils) = 15 kWh / 16 h
Energy requirement of blender = 0.5 kWh / 16 h
Electricity charges = Rs.10 / kWh

I. Fixed cost per year

Fixed cost of the unit

\[ \text{Fixed cost of the unit} = \frac{i (1+i)^n}{(1+i)^n+1} \times C \]
\[ = \frac{0.105 (0.105+1)^{15}}{(0.105+1)^{15}+1} \times 75,000 \]
\[ = Rs. 6,436.02/- \]

Housing, insurance and taxes = 10% of initial cost of the dryer
\[ = Rs. 7,500 \]

Total fixed cost/ year = Rs. 13,936/-

II. Variable cost per year

Repair and maintenance = 5 % of initial cost of the dryer
\[ = 75,000 \times \frac{5}{100} \]
\[ = Rs. 3,750/- \]

Electricity charges = No. of days x Energy per day x Rate
\[ = 300 \times 15.5 \times 10.0 \]
\[ = Rs. 46,500 \]
Labour charges

Male labourer one = Rs. 120 / shift
Female labourer one = Rs. 80 / shift
Total = Rs. 200 / shift
Number of shifts per day = 2
Cost of labour per year = 200 x 2 x 300
= Rs. 1,20,000/-

Cost of Raw materials

Cost of muskmelon = Rs. 25 / kg
Total quantity of melon required per day = 40 kg (for two shifts)
Cost of muskmelon for 300 days = 25 x 40 x 300
= Rs. 3,00,000/

Cost of Foaming agent and Stabilizer

Cost of foaming agent (whey protein, 4%) = Rs. 800 / kg
Total quantity required per day = 1600 g / day (for two shifts)
Cost of foaming agent per day = Rs. 1280/day
Cost of foaming agent for 300 days = Rs. 3,84,000/ year

Cost of foam stabilizer (CMC, 0.5%) = Rs. 450 / kg
Total quantity required per day = 200g / day (Two shifts)
Cost of foaming agent per day = Rs. 90/ day
Cost of foaming agent for 300 days = Rs. 27,000/ year

Total variable cost/ year = Rs. 881250/-
Total cost/ year = Fixed cost + Variable cost
= Rs. 895186/-
Total production/ year = 4 x 300
= 1200 kg / year
Cost of muskmelon powder

\[
\text{Cost of muskmelon powder} = \frac{\text{Total cost of drying}}{\text{Total muskmelon pulp dried per year}}
\]

\[
= \frac{8,95,186}{1,200}
\]

\[
= \text{Rs.} 745.98 /\text{kg of muskmelon powder}
\]