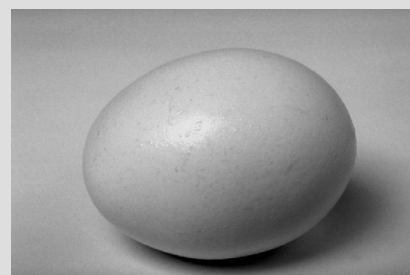


# EGG ALBUMEN FLAKES



## 1.0 INTRODUCTION

Consumption of eggs is increasing in the country. At the same time, egg white has some industrial applications as well. Drying the egg white makes egg albumen flakes. This dried product has a crystalline appearance with golden yellow colour.

## 2.0 PRODUCT

### 2.1 Applications

Technical grade flakes are used in tanning of leather, in offset printing and as adhesive in crown cork cap manufacturing. The food grade product is mainly used in bakery and confectionery production. Egg yolk can be pasteurised and frozen for edible usage.

Since eggs are available round the year, the factory can be set up anywhere in the country but the preferred locations are Maharashtra, Andhra Pradesh, Tamilnadu and West Bengal.

### 2.2 Technology & Compliance

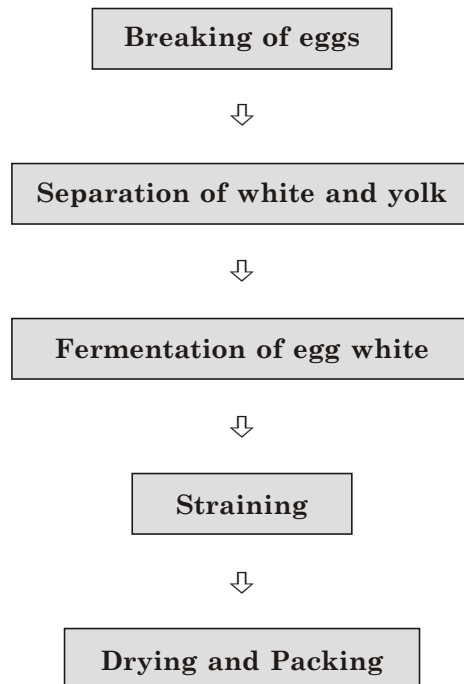
National Research Development Corporation, New Delhi, has developed the technical know-how. For edible grade flakes, compliance under the PFA Act is compulsory.

## 3.0 MARKET POTENTIAL

Egg albumen flakes of two different grades can be manufactured. Technical grade has industrial applications in leather tanning, offset printing and as adhesive in crown cork cap manufacture. The food grade flakes are mainly used in bakery products and confectionery manufacturing. Pasturised egg yolk is used for edible purpose as well as in the manufacture of cosmetics.

#### 4.0 MANUFACTURING PROCESS

To begin with, eggs are broken either manually or mechanically and white and yolk are separated. Egg white is then fermented to bring down the glucose content. Fermented material is subsequently strained and dried. Dried product is finally packed in containers. The process flow chart is as under:



#### 5.0 CAPITAL INPUTS

##### 5.1 Land & Building

A plot of 200 sq.mtrs. with built-up area of 100 sq.mtrs. shall be adequate. The land may cost Rs.6.000/- whereas cost of civil work would be Rs. 2.50 lacs.

##### 5.2 Machinery

Annual rated production capacity of 15 tonnes would need following machines:

(Rs. in lacs)

Particulars	Qty	Amount
Walk-in Coolers	2	1.00
Fermentation Tanks	4	1.60
Tray or tunnel drier	1	1.50
Pasteuriser	1	6.75
Plate freezer	1	0.60
Packing line	1	0.75
<b>Total</b>		<b>6.20</b>

### 5.3 Miscellaneous Assets

Other assets like storage racks, SS utensils, plastic crates, egg breakers, furniture & fixtures, working tables etc. would cost around Rs. 1.75 lacs.

### 5.4 Utilities

Per day water requirement shall be around 5000 ltrs. whereas power requirement shall be 40 kW.

### 5.5 Raw and Packing Materials

The only raw material will be eggs and hence the location has to be nearer to the poultry farms. Tin containers and corrugated boxes would be the packing materials.

## 6.0 MANPOWER REQUIREMENTS

Particulars	No	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Workers	2	2,500	5,000
Helpers	6	1,500	9,000
Salesman	1	2,500	2,500
		<b>Total</b>	<b>16,500</b>

## 7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	2
Site selection and commencement of civil work	1
Completion of civil work and placement of orders for machinery	4
Erection, installation and trial runs	1

## 8.0 DETAILS OF THE PROPOSED PROJECT

### 8.1 Land and Building

The total expenditure under this head is likely to be Rs. 3.10 lacs as stated before.

### 8.2 Machinery

Total cost of machinery is estimated to be Rs.6.20 lacs, as explained earlier.

### 8.3 Miscellaneous Assets

A provision of Rs. 1.75 lacs would take care of other assets as stated before.

### 8.4 Preliminary and Pre-Operative Expenses

An amount of Rs. 1.00 lac would take care of certain pre-production expenses like registration, establishment and administrative charges, interest during implementation, trial runs etc.

## 8.5 Working Capital Requirement

At 60% capacity utilisation in the first year, the working capital needs would be as under.

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw and Packing Materials	½ Month	25%	0.85	0.65	0.20
Receivables	½ Month	25%	1.20	0.90	0.30
Working Expenses	1 Month	100%	0.40	--	0.40
		<b>Total</b>	<b>2.45</b>	<b>1.55</b>	<b>0.90</b>

## 8.6 Cost of the Project and Means of Financing

(Rs. in lacs)

Items	Amount
Land and Building	3.10
Plant and Machinery	6.20
Miscellaneous Assets	1.75
Preliminary and Pre-operative Expenses	1.00
Contingencies @ 10% on land and building and machinery	0.95
Working Capital Margin	0.90
<b>Total</b>	<b>13.90</b>
<b>Means of Finance</b>	
Promoter's Contribution	3.90
Term Loan from Bank/FI	10.00
<b>Total</b>	<b>13.90</b>
Debt Equity Ratio	2.56 : 1
Promoters' Contribution	28%

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.

## 9.0 PROFITABILITY CALCULATIONS

### 9.1 Production Capacity and Build-up

As against the rated capacity of 15 tonnes per year, actual utilisation in the first year is assumed to be 60% and thereafter it is limited to 75% every year.

### 9.2 Sales Revenue at 100%

Considering selling price of Rs. 3.00 lacs per ton, the annual sales at 100% would be Rs. 45 lacs.

**9.3 Raw and Packing Materials Required at 100%**

(Rs. in lacs)

Product	Qty	Rate (Rs.)	Value
Eggs	3 Lac Dozens	Rs.8/Dozen	24.00
Packing Material		@ Rs.8000/Ton	1.20
		<b>Total</b>	<b>25.20</b>

**9.4 Utilities**

Annual cost of utilities at 100% capacity utilisation would be Rs. 2.50 lacs.

**9.5 Interest**

Interest on term loan is computed @ 12% per annum assuming repayment in 5 years including a moratorium period of 1 year whereas on working capital from bank, it is calculated @ 14% per annum.

**9.6 Depreciation**

It is calculated on WDV basis @ 10% on building and 20% on machinery and miscellaneous assets.

**10.0 PROJECTED PROFITABILITY**

(Rs. in lacs)

No	Particulars	1st Year	2nd Year
<b>A</b>	<b>Installed Capacity</b>	--- 15 tonnes ---	
	Capacity Utilisation	60%	75%
	Sales Realisation	27.00	33.75
<b>B</b>	<b>Cost of Production</b>		
	Raw and Packing Materials	15.12	18.90
	Utilities	1.50	1.90
	Salaries	1.98	2.50
	Stores and Spares	0.42	0.54
	Repairs and Maintenance	0.36	0.48
	Selling Expenses @ 7.50%	2.02	2.53
	Administrative Expenses	0.84	1.20
	<b>Total</b>	<b>22.24</b>	<b>28.05</b>
<b>C</b>	<b>Profit before Interest &amp; Depreciation</b>	<b>4.76</b>	<b>5.70</b>
	Interest on Term Loan	1.20	0.98
	Interest on Working Capital	0.22	0.28
	Depreciation	1.84	1.50
	Profit before Tax	1.50	2.94
	Income Tax @ 20%	0.30	0.59
	Profit after Tax	1.20	2.35
	Cash Accrual	3.04	3.85
	Repayment of Term Loan	--	2.50

## 11.0 BREAK-EVEN POINT ANALYSIS

(Rs. in lacs)

No.	Particulars	Amount	
A	Sales		33.75
B	Variable Cost		
	Raw and Packing Materials	18.90	
	Utilities (70%)	1.33	
	Salaries (70%)	1.75	
	Stores and Spares	0.54	
	Selling Expenses (70%)	1.77	
	Administrative Expenses (50%)	0.60	
	Interest on working capital	0.28	25.17
C	Contribution		8.58
D.	Fixed Cost		5.14
E.	Break Even Point (D ÷ C)		60%

## 12.0 [A] LEVERAGES

### Financial leverage

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

$$= 4.44 \div 2.94$$

$$= 1.51$$

### Operating Leverage

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

$$= 8.58 \div 2.94$$

$$= 2.92$$

### Degree of Total Leverage

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

$$= 1.51 \div 2.92$$

$$= 0.52$$

**[B] Debt Service Coverage Ratio (DSCR)**

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
Cash Accruals	3.08	3.85	4.39	4.77	5.13
Interest on Term Loan	1.20	0.98	0.68	0.38	0.20
<b>Total (A)</b>	<b>4.28</b>	<b>4.83</b>	<b>5.07</b>	<b>5.15</b>	<b>5.33</b>
Interest on Term Loan	1.20	0.98	0.68	0.38	0.20
Repayment of Term Loan	--	2.50	2.50	2.50	2.50
<b>Total (B)</b>	<b>1.20</b>	<b>3.48</b>	<b>3.18</b>	<b>2.88</b>	<b>2.70</b>
<b>DSCR (A) ÷ (B)</b>	<b>3.56</b>	<b>1.39</b>	<b>1.59</b>	<b>1.78</b>	<b>1.97</b>
<b>Average DSCR</b>	----- <b>2.06</b> -----				

**[C] Internal Rate of Return (IRR)**

Cost of the project is Rs. 13.90 lacs.

(Rs. in lacs)

Year	Cash Accruals	16%	18%	20%	24%
1	3.08	2.66	2.61	2.57	2.48
2	3.85	2.86	2.76	2.67	2.50
3	4.39	2.81	2.67	2.54	2.30
4	4.77	2.63	2.46	2.30	2.02
5	5.13	2.44	2.24	2.06	1.75
6	5.56	2.28	2.06	1.86	1.53
	<b>26.78</b>	<b>15.68</b>	<b>14.80</b>	<b>14.00</b>	<b>12.58</b>

The IRR is around 21%.

**Some of the machinery suppliers are**

1. Flora Engg. Corpn, 28A, Phoolbag, Rampura, New Delhi 110 035  
Tel. No.: 25415335, 25411920
2. Eastend Engg. Co, 173/1 Gopalrai Thakar Road, Kolkata 700 035  
Tel. No.: 25773416, 25776324
3. Raylon Metal Works, PB No 17426, JB Nagar, Andheri (E), Mumbai 400 059
4. Somani International Corpn, 1510, Maker Chamber V, Nariman Point, Mumbai 400 021
5. Cowel Can Ltd, PO Barotiwala, Dist. Solan (HP)
6. Container Inds, C-299, Ghatkopar Indl Est, 72 LB Marg, Mumbai 400 080