

**PROJECT PROFILE**

**ON**

**GINNING MILLS**  
**(Ginning & Pressing Operations)**

**PREPARED BY**



**Formerly Andhra Pradesh Industrial & Technical  
Consultancy Organisation Limited**

**8<sup>th</sup> Floor, Parishrama Bhavan,  
Basheerbagh, Hyderabad**

### **1. Introduction:**

Ginning is the first mechanical process involved in processing cotton. Ginning mill separates cotton fibers from the seed bolls and dust particles. The main application of ginned cotton referred to as lint is for spinning operations, where lint is converted to yarn.

### **2. Market:**

World production of cotton stood at 137.8 million bales in the year 2008-09. The leading producers include China, India, USA, Pakistan, Brazil, and Turkey. Cotton textile commands a significant share in exports from India. It accounts for nearly 22% of the total exports. Area, production and productivity of cotton in India in the year 2008-09 stood at 93.73 lakh hectares, 290 lakh bales(170 Kg of each bale) , 526 Kgs per hectare.

A.P. stands 3<sup>rd</sup> rank in Cotton area in India with 10.96 lakh hectares (Ha) next only Maharashtra (31.91 L.ha) and Gujarat (25.96 L.ha). The share in area of A.P. in India is 11.5 %. It also stands 3<sup>rd</sup> in cotton production in India with 43.00 Lakh bales (Bale is 170 kg each) with an average yield of 667 Kgs next only to Maharashtra (60.00 L.B) and Gujarat (110.00 L.B). Adilabad, Guntur and Warangal had recorded higher growth in cotton area cultivation and production.

### **3. Raw Material:**

The raw material considered for the ginning operations is Raw Cotton/Kappa cotton available in candy of 356 Kgs/candy. The classification of cotton fiber as adopted by the CAB is given in the table below:

## Classification of Cotton Fiber

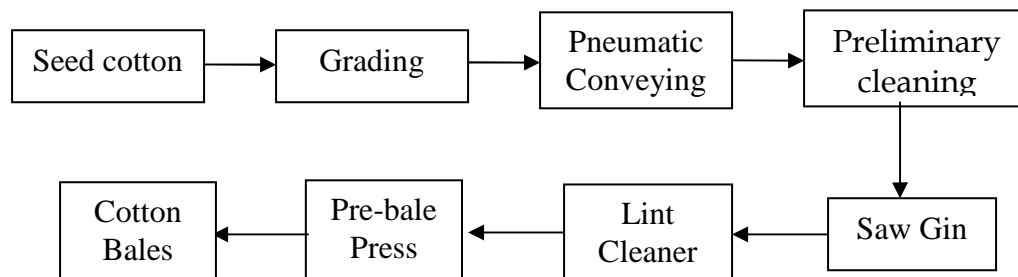
S.No.	Group	Classification
1	Short Staple	20.0 mm & below
2	Medium Staple	20.5 mm to 24.5 mm
3	Medium Long Staple	25.0 mm to 27.0 mm
4	Long Staple	27.5 mm to 32.0 mm
5	Extra Long Staple	32.5 mm & above

### 4. Manufacturing Process & Technology

Ginning process is shown in the flow chart given below. Seed cotton is fed to grading system where grading is done followed by pneumatic conveying. From here it is fed to preliminary cleaning process, followed by saw gin, lint cleaner, pre-bale press and cotton bales.

Ginning Process involves two cleaning stages:

1. Pre Cleaning
2. Post Cleaning



The main operation of separating seed from cotton is done by saw gin. In the gin house after ginning process is completed the cotton lint and cotton seeds are separated and the lint passes out through pneumatic system to the Post-cleaner (Lint Cleaners) in which small impurities, dust particles, small fibers are carried out and cotton becomes free from contamination.

**Pressing:**

Cleaned Lint is taken to the bale press which compresses the ginned lint into bales that weigh around 170 Kgs. After pressing is completed the bale is tightened and covered fully with cloth, after then the bale is weighed and kept in the hall safely.

**Packaging the Lint:**

The bales are then wrapped with a protective cover, ready for delivery to the warehouse where they are sold to various textile mills

**5. Technology:**

The technology required for the ginning & pressing operations are cotton ginning machinery, pre cleaner, lint cleaner, Kappas conveyor system, lint conveyor system, Hydraulic cotton baling press, conveyor for seed, electrical infrastructure, Humidifier and weigh bridge etc. The other optional machinery required is the foreign fibre detectors/removers.

**Minimum economic size of the plant:**

The minimum economic capacity of the ginning mill is about 24 Gins.

**Yield and Production:**

The yield of lint cotton is assumed at 32%, seed is assumed at 65% and waste is assumed at 3% which are based on the industrial norms and manufacturers specifications.

## 6. Investment:

The investment cost for setting up a ginning mill of 24 gins will be around **Rs. 9.64 Crores** and the break up of the cost is tabulated below.

The land requirement will be around 7 acres. The pre-operative expense includes interest during construction of Rs 0.24 crores. Plant & Machinery including installation, erecting & commissioning charges are of 2.63 crore. Buildings and civil works are estimated to be 2.73 crore. Contingencies, electricity deposits are also considered in the project cost. Margin money for working capital is estimated to be 3.54 crore.

**Table 1:** Project Cost

<b>S.No.</b>	<b>Description</b>	<b>Cost (Rs in Crores)</b>
1	Land & Site Development	0.17
2	Buildings & Civil works	2.73
3	Plant & Machinery including ert., ins.,& freight	2.63
4	Electricity Deposits	0.12
5	Preliminary Expenses	0.07
6	Pre-operative Expenses	0.24
7	Contingency @5%	0.14
8	Margin Money for Working capital	3.54
<b>Total Project Cost</b>		<b>9.64</b>

## Means of Finance

The project is proposed to finance with a debt equity ratio of 0.79:1 and the means of finance is as follows:

**Table 2:** Means of Finance

S.No.	Sources of Funds	Cost (Rs in Crores)
1	Share Capital - Equity	5.39
2	Term Loan	4.25
	<b>Total</b>	<b>9.64</b>

## 7. Profitability Assumptions:

Basic assumptions of the ginning mill are given in the table below:

Description	Installed Capacity
No. of Gins	24
Capacity of each Gin (Kgs/Hr)	90
Bailing Capacity (Bales/Hr)	10
No. of Operating Hours/Day	20
No. of Operating Days/Annum	180

The Ginning unit can work at 75% of installed capacity with operating days of 180 days per annum because of the seasonal availability of the cotton. The manpower requirement is considered at 100 personnel for various level viz. casual labour, Technical & Supervisory staff and administrative staff.

### 8. Key Financial indicators:

The returns are adequate enough to repay the term loan in 9 years. The key financial indicators are tabulated below.

(Rs. in Crores)

S No	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
1	Sales	33.91	47.26	47.47	47.47	47.47	47.47	47.47	47.47
2	Total Expenditure	30.68	43.37	43.63	43.68	43.74	43.79	43.85	43.92
3	PBIDT	3.23	3.9	3.84	3.79	3.73	3.69	3.62	3.56
4	PBT	1.47	1.75	1.78	1.81	1.84	1.88	1.91	1.93
5	PAT	1.09	1.38	1.37	1.36	1.36	1.37	1.37	1.37
6	Cash Accruals	1.21	1.62	1.61	1.6	1.6	1.61	1.61	1.61
7	BEP @ Installed capacity	35.18%	46.46%	41.39%	39.34%	37.15%	34.32%	31.85%	29.28%
8	BEP @ Operating capacity	26.39%	37.17%	33.11%	31.47%	29.72%	27.46%	25.48%	23.42%
9	Debt Equity Ratio	0.67	0.56	0.45	0.34	0.23	0.11	0	0
10	DSCR (Gross)	3.56	1.98	2.01	2.05	2.1	2.17	2.31	2.54
11	Average DSCR	2.31							
12	DSCR (Net)	10.11	3.26	3.09	2.95	2.83	2.72	2.63	2.73
13	Average DSCR	3.08							
14	IRR (%)	27.05%							

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