

The Incredible and Inevitable Technologies that Unlocked the Milestones in Indian Cotton Production

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Her current research activities are dedicated to find out innovations in Transfer of Cotton Technology so that through support of appropriate, tailor made and translated technological information; yield and income of cotton growers can be enhanced. She has been dedicating

since 2000 to the issue of Technology Transfer in Cotton through conducting nationwide demonstrations and has been involved in studies on usage of Information

and Communication tools viz., web portal, mobile phone, social media etc., in dissemination of agricultural technologies and gender mainstreaming in cotton sector.

In this contemporary era, "technology" is the magic wand that transforms growth and development of every sector and agriculture is no exception. Technology impacts the environment, people and the society as a whole. Agricultural technologies include products, services or applications derived from agriculture with the aim of improving yield, efficiency and profitability.

A successful agricultural technology must necessarily have characteristics like relative advantage over its predecessor, technical feasibility, trial ability, economic viability, social acceptability, infrastructural compatibility, complexity and

visibility. Among the agricultural sectors, cotton sector is a primary example of one which was influenced by technologies like traditional Desi cotton

in earlier periods to transgenic Bt cotton in later decades. These technologies compiled the aforesaid characteristics, transformed the Indian cotton sector at different decades and placed the country on top at world level in acreage and production.

This paper makes an attempt to highlight the incredible and inevitable technologies that



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2 • 9th February, 2021 COTTON STATISTICS & NEWS

unlocked the milestones in Indian cotton sector during the past seven decades.

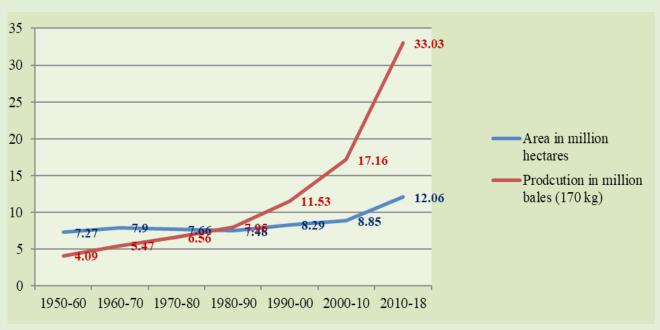
Decade-wise Indian Cotton Scenario and the Major Trendsetting Technologies

It is an undeniable fact that the technological catalysts were that major trendsetters in Indian cotton scenario during the last seven decades. The decade wise analysis (Figure 1) depicts that the area under cotton rose from an average of 7.27 million hectares during 1950-60 to 12.06 million hectares in the last decade (until 2018-19) and the production was from 4.09 million Indian bales to 28.71 million Indian bales.

Doughty Desi Cotton During the Earliest Decade

It is believed that India might be the center of origin and diversity of Desi cotton species Gossypium arboreum. In earlier years, India was known for the finest fabrics made out of the Desi cotton. This species is known for its adaptability, tolerance to a wide range of biotic and abiotic factors, acclimatisation to marginal and adverse environments and less input requirements. It is reported that at the time of independence, 97% of the area was under Desi cotton and only 3% was occupied by Gossypium hirsutum.

Figure 1
Area and Production of Cotton in India for the Past Seven Decades



(Source: Agricultural Statistics at a Glance, 2019, Directorate of Economics and Statistics, DACAFW)

This tremendous growth and development of Indian cotton scenario was due to the technological advancements introduced in the country in various decades. Literature reports that the perceptible technological catalysts, which changed the cotton scenarios during the last seven decades include improvement of Desi cotton varieties in 1950s-60s, introduction of American cotton varieties in 1960s-70s, cotton hybrids in 1970s-80s, the synthetic pyrethroids in the 80s, amalgamation of production and protection technologies such as the INM, IDM, IPM and IRM in 90s and commercialization of Bt cotton technology in 2002 and its adoption in subsequent years (Venugopalan, 2012).

Earlier there were traditional Desi cotton varieties cultivated by the Indian cotton farmers like 'Bengal Desi, Pundur, Kaala cotton, Wagadh, Uppam, Karunganni, Jayadhar and Pandrapura'. Later in due course of time, Indian scientists went on to develop excellent varieties of Desi cotton that produced cotton with fibre quality and yield equivalent to that of American cotton. Since these varieties have many hardy features, they are considered as assets and insurance for the future cotton cultivation which would be likely to face the implications of climate change vagaries.

(To be continued...)

Revision in Testing Charges at CAI Laboratories

The following are the charges for cotton testing in the laboratories of the Cotton Association of India with effect from 1st October 2020.

Particulars	Per Sample Testing Fees in Rs.						
	Testing Fees	GST	Total				
HVI Test	145	26	171				
Micronaire Test	85	15	100				
Colour Grade on HVI	85	15	100				
Gravimetric Trash Test on HVI	85	15	100				
Moisture	85	15	100				
Grading (Manual Classing)	235	42	277				

VOLUME BASED DISCOUNTS

Particulars	Per Sample Testing Fees in Rs.						
	Testing Fees	GST	Total				
For 250 samples and above but less than 500 samples	140	25	165				
For 500 samples and above but less than 750 samples	135	24	159				
For 750 samples and above but less than 1000 samples	130	23	153				
For 1000 samples and above but less than 2000 samples	125	23	148				
For 2000 samples and above but less than 5000 samples	120	22	142				
For 5000 samples and above but less than 10,000 samples	115	21	136				
For 10,000 samples and above	100	18	118				

The fees under the above volume based discount scheme is payable within 15 days from the receipt of the invoices to be raised on monthly basis.

We would also like to inform that the parties can avail the benefit of testing of cotton at multiple laboratories of the Associations against the CAI Credits made by them.

We earnestly request you to avail the facility of testing at the Association's laboratories.



Cotton Association of India

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COTTON STATISTICS & NEWS

CAI Maintains its Cotton Crop Estimate for 2020-21 Season at 360 Lakh Bales

otton Association of India (CAI) has released its January estimate of the cotton crop for the Season 2020-21 beginning on 1st October 2020.

CAI has retained its cotton crop estimate for the 2020-21 Season at 360 lakh bales of 170 kgs. each which is equivalent to 382.50 lakh running bales of 160 kgs. each. The state-wise break-up of the cotton Production and Balance Sheet for the Season with the corresponding data for the previous crop year are given below.

The total cotton supply during the months of October 2020 to January 2021 is estimated by the CAI at 386.25 lakh bales of 170 Kgs. each i.e. 410.39 lakh running bales of 160 kgs. each, which comprises the arrivals of 255.25 lakh bales of 170 kgs. each (i.e. 271.20 lakh running bales of 160 kgs. each) during the months of October 2020 to January 2021, import of cotton estimated at 6.00 lakh bales of 170 kgs. each (6.38 lakh running bales of 160 kgs .each) upto 31st January 2021 and opening stock at the beginning of the cotton season on 1st October 2020 estimated by the CAI at 125.00 lakh bales of 170 kgs .each (i.e. 132.81 lakh running bales of 160 kgs. each).

Further, the CAI has estimated cotton consumption during the months of October 2020 to January 2021 at 110.00 lakh bales of 170 kgs. each i.e. 116.88 lakh running bales of 160 kgs. each while the export shipment of cotton estimated by the CAI upto 31st January 2021 is 29 lakh bales of 170 kgs. each (i.e. 30.81 lakh running bales of 160 kgs. each). Stocks at the end of January 2021 are estimated by the CAI at 247.25 lakh bales of 170 kgs. each (i.e. 262.70 lakh running bales of 160 kgs. each).

The CAI Crop Committee has estimated the total cotton supply till the end of the cotton season 2020-21 i.e. upto 30th September 2021 at 499 lakh bales of 170 kgs. each (equivalent to 530.19 lakh running bales of 160 kgs. each). The total cotton supply consists of the opening stock of 125 lakh bales of 170 kgs. each at the beginning of the Season on 1st October 2020,

crop for the Season estimated at 360 lakh bales of 170 kgs. each and imports estimated by the CAI at 14 lakh bales of 170 kgs. each (equivalent to 14.88 lakh running bales of 160 kgs. each), which are less by 1.50 bales of 170 kgs. each than 15.50 lakh bales of 170 kgs. each (16.47 lakh running bales) estimated for the previous cotton season 2019-20.

Domestic consumption has now been estimated by the CAI at 330 lakh bales of 170 kgs. each (equivalent to 350.63 lakh running bales of 160 kgs. each) i.e. at the same level as estimated in the previous month. There is an increase of 80 lakh bales of 170 kgs. each in the cotton consumption compared to the previous crop year's consumption estimate of 250 lakh bales. The consumption is expected to reach its normal level this year after the disruptions and labour shortage caused on account of the lockdown imposed in the country to arrest spread of COVID-19 pandemic. The CAI has estimated exports for the Season at 54 lakh bales of 170 kgs. each (equivalent to 57.38 lakh running bales of 160 kgs. each) as against 50 lakh bales of 170 Kgs. each estimated for the previous cotton season. The carry-over stock at the end of the cotton season 2020-21 is estimated by the CAI at 115 lakh bales of 170 kgs. each (equivalent to 122.19 lakh running bales of 160 kgs. each) as against 107.50 lakh bales (114.22 lakh running bales of 170 kgs. each) at the end of the previous cotton season 2019-20.

Highlights of Deliberations held by the Crop Committee of Cotton Association of India on 6th February 2021

The Crop Committee of Cotton Association of India (CAI) held its meeting on 6th February 2021 by video conferencing. In all, 24 members representing all cotton producing states and stakeholders, who attended this meeting, arrived at the January estimate of the cotton crop for the 2020-21 season beginning on 1st October 2020 and drawn the estimated cotton balance sheet based on the data available from various trade sources, upcountry associations and other stakeholders.

The following are the highlights of the deliberations of the Crop Committee of the CAI: -

1) CONSUMPTION

The CAI has retained its consumption estimate for the current crop year at the same level as estimated in the last month i.e. 330.00 lakh bales. The consumption for the previous season was estimated at 250 lakh bales due to the disruptions caused on account of COVID-19 Pandemic. Consumption is now expected to reach the pre-lockdown level of 330 bales during the 2020-21 Season.

Upto 31st January 2021, the consumption is estimated at 110 lakh bales of 170 kgs. each (equivalent to 116.88 lakh running bales of 160 kgs. each).

2) PRODUCTION

The CAI has maintained its cotton production estimate for the season 2020-21 at the same level as estimated previously i.e. at 360 lakh bales of 170 kgs. each (equivalent to 382.50 lakh running bales of 160 kgs. each. The crop estimated now for 2020-21 Season is at the same level as estimated for the previous year.

The Committee members will have a close watch on the cotton arrivals in the subsequent months and if any addition or reduction is required to be made in the production estimate, the same will be made in the CAI reports.

3) IMPORTS

The estimate of the cotton imports into India has been maintained by the CAI at the same level as estimated in the previous month i.e. at 14.00 lakh bales of 170 kgs. each (equivalent to 14.88 lakh running bales of 160 kgs. each) which are less by 1.50 lakh bales of 170 kgs. each from 15.50 lakh bales of 170 kgs. each estimated for the 2019-20 crop year.

Upto 31st January 2021, about 6 lakh cotton bales of 170 kgs. each are estimated to have arrived the Indian Ports.

4) EXPORTS

The CAI has estimated the cotton exports for the 2020-21 Season at 54 lakh bales of 170 kgs. each (57.38 lakh running bales of 160 kgs. each) against the previous year's export estimate of 50 lakh bales of 170 kgs. each (53.13 lakh running bales of 160 kgs. each)

Upto 31st January 2021, 29 lakh bales of 170 kgs. each (30.81 lakh running bales of 160 kgs. each) are estimated to have been shipped.

5) ARRIVALS

Indian cotton arrivals during the months of October 2020 to January 2021 are estimated at 255.25 lakh bales of 170 kgs. each which are equivalent to 271.20 lakh running bales of 160 kgs. each.

6) STOCK AS ON 31ST JANUARY 2021

The cotton stocks held by mills in their godowns on 31st January 2021 are estimated at 75 lakh bales (equivalent to 79.69 lakh running bales of 160 kgs. each). The mills have on an average about 82 days' cotton stock in their godowns.

The CCI, Maharashtra Federation, MNCs, Ginners, Traders. MCX, etc. are estimated to have the total stock of about 172.25 lakh bales of 170 kgs. each as on 31st January 2021 which is equal to about 183.02 lakh running bales of 160 kgs. each.

Thus, the total stock held by spinning mills and stockists on 31st January 2021 is estimated at 247.25 lakh bales of 170 kgs. each which is equal to about 262.70 lakh running bales of 160 kgs. each.

7) CLOSING STOCK AS ON 30TH SEPTEMBER 2021

Closing stock as on 30th September 2021 is estimated by the Committee at 115 lakh bales of 170 kgs. each which is equivalent to about 122.19 lakh running bales of 160 kgs. each.

COTTON STATISTICS & NEWS

CAI's Estimates of Cotton Crop as on 31st January 2021 for the Seasons 2020-21 and 2019-20 (in lakh bales of 170 kg.)

		Production	Arrivals as on 31st January 2021				
State	2020	0-21	2019	9-20	2020-21		
	In running b/s of 160 Kgs. each	In lakh b/s of 170 Kgs. each	In running b/s of 160 Kgs. each	In lakh b/s of 170 Kgs. each	In running b/s of 160 Kgs. each	In lakh b/s of 170 Kgs. each	
Punjab	11.16	10.50	10.09	9.50	9.67	9.10	
Haryana	21.78	20.50	27.09	25.50	19.02	17.90	
Upper Rajasthan	18.06	17.00	13.81	13.00	16.89	15.90	
Lower Rajasthan	14.88	14.00	15.94	15.00	12.64	11.90	
Total North Zone	65.88	62.00	66.94	63.00	58.23	54.80	
Gujarat	99.88	94.00	100.94	95.00	58.97	55.50	
Maharashtra	90.31	85.00	92.44	87.00	60.56	57.00	
Madhya Pradesh	21.25	20.00	19.13	18.00	13.81	13.00	
Total Central Zone	211.44	199.00	212.50	200.00	133.34	125.50	
Telangana	Telangana 52.59		55.25	52.00	42.23	39.75	
Andhra Pradesh	17.00	16.00	16.20	15.25	12.22	11.50	
Karnataka	26.03	24.50	21.25	20.00	18.59	17.50	
Tamil Nadu	l Nadu 5.31		5.31 5.00		3.19	3.00	
Total South Zone	100.94	95.00	98.02	92.25	79.23	71.75	
Orissa	3.19	3.00	3.98	3.75	2.55	2.40	
Others	1.06	1.00	1.06	1.00	0.85	0.80	
Total	Total 382.50 360.00		382.50	360.00	271.20	255.25	

^{*} Including loose

The Balance Sheet drawn by the Association for 2020-21 and 2019-20 is reproduced below:-

(in lakh bales of 170 kg.)

Details	2020-21	2019-20	
Opening Stock	* 125.00	32.00	
Production	360.00	360.00	
Imports	14.00	15.50	
Total Supply	499.00	407.50	
Mill Consumption	288.00	218.00	
Consumption by SSI Units	24.00	18.00	
Non-Mill Use	18.00	14.00	
Total Domestic Demand	330.00	250.00	
Available Surplus	169.00	157.50	
Exports	54.00	50.00	
Closing Stock	115.00	107.50	

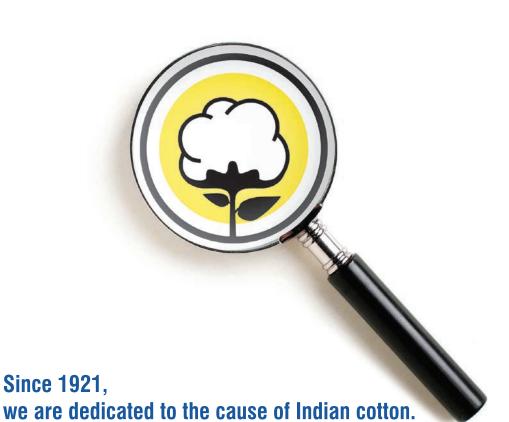
^{*} One time adjustment of 17.50 lakh bales made in the Opening stock i.e. 107.50 lakh bales to 125.00 lakh bales by the CAI Statistics Committee in the meeting held on 6th January 2021.

Balance Sheet of 4 months i.e. from 1.10.2020 to 31.01.2021 for the season 2020-21

Details	In lakh b/s of 170 kg.	In '000 Tons	
Opening Stock as on 01.10.2020	125.00	2125.00	
Arrivals upto 31.01.2021	255.25	4339.25	
Imports upto 31.01.2021	6.00	102.00	
Total Available	386.25	6566.25	
Consumption	110.00	1870.00	
Export Shipments upto 31.01.2021	29.00	493.00	
Stock with Mills	75.00	1275.00	
Stock with CCI, Maha. Fedn., MCX, MNCs & Ginners	172.25	2928.25	
Total	386.25	6566.25	

Details of Stock with CCI, Maha. Fedn., MCX, MNCs, Ginners & Traders As on 31.01.2021

CCI	86.00
Maharashtra Fedn.	14.00
MCX	1.75
Ginners	28.00
Traders	7.50
MNCs	15.00
CCI and Maharashtra Fedn. Cotton Sold but not Delivered	20.00
TOTAL	172.25



The Cotton Association of India (CAI) is respected as the chief trade body in the hierarchy of the Indian cotton economy. Since its origin in 1921, CAI's contribution has been unparalleled in the development of cotton across India.

The CAI is setting benchmarks across a wide spectrum of services targeting the entire cotton value chain. These range from research and development at the grass root level to education, providing an arbitration mechanism, maintaining Indian cotton grade standards, issuing Certificates of Origin to collecting and disseminating statistics and information. Moreover, CAI is an autonomous organization portraying professionalism and reliability in cotton testing.

The CAI's network of independent cotton testing & research laboratories are strategically spread across major cotton centres in India and are equipped with:

- State-of-the-art technology & world-class Premier and MAG cotton testing machines
- HVI test mode with trash% tested gravimetrically

LABORATORY LOCATIONS

Current locations: • Maharashtra: Mumbai; Yavatmal; Aurangabad; Jalgaon • Gujarat: Rajkot; Ahmedabad • Andhra Pradesh: Adoni • Madhya Pradesh: Khargone • Karnataka: Hubli • Punjab: Bathinda • Telangana: Warangal, Adilabad



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					JPCOUI	NTRY SP	OT RAT	ES				(R	s./Qtl)
Standard Descriptions with Basic Grade & Staple in Millimetres based on Upper Half Mean Length [By law 66 (A) (a) (4)]							Spot Rate (Upcountry) 2019-20 Crop February 2021						
Sr. No	. Growth	Grade Standard	Grade	Staple	Micronaire	Gravimetric Trash	Strength /GPT	1st	2nd	3rd	4th	5th	6th
3	GUJ	ICS-102	Fine	22mm	4.0 - 6.0	13%	20	8295 (29500)	8295 (29500)	8352 (29700)	8380 (29800)	8436 (30000)	8436 (30000)
												20-21 Cr	
1	P/H/R	ICS-101	Fine	Below 22mm	5.0 – 7.0	4%	15	10798 (38400)	10714 (38100)	10657 (37900)	10601 (37700)	10601 (37700)	10601 (37700)
2	P/H/R (SG)	ICS-201	Fine	Below 22mm	5.0 – 7.0	4.5%	15	10939 (38900)	10854 (38600)	10798 (38400)	10742 (38200)	10742 (38200)	10742 (38200)
3	GUJ	ICS-102	Fine		4.0 - 6.0	13%	20	-	-	-	-	-	-
4	KAR	ICS-103	Fine	23mm	4.0 - 5.5	4.5%	21	8577 (30500)	8577 (30500)	8577 (30500)	8577 (30500)	8633 (30700)	8633 (30700)
5	M/M (P)	ICS-104	Fine	24mm	4.0 - 5.5	4%	23	10545 (37500)	10545	10545	10545	10629	10657 (37900)
6	P/H/R (U) (SG)	ICS-202	Fine	27mm	3.5 - 4.9	4.5%	26	11726 (41700)	11754	11782	11782 (41900)	11895	11895
7	M/M(P)/ SA/TL	ICS-105	Fine	26mm	3.0 - 3.4	4%	25	9392 (33400)	9392	9392 (33400)	9420 (33500)	9476	9420 (33500)
8	P/H/R(U)	ICS-105	Fine	27mm	3.5 - 4.9	4%	26	11895	11923 (42400)	11951	11951 (42500)	12063	12063 (42900)
9	M/M(P)/	ICS-105	Fine	27mm	3.0 - 3.4	4%	25	9983	9983	9983	9926 (35300)	10011	9954
10	SA/TL/G M/M(P)/	ICS-105	Fine	27mm	3.5 - 4.9	3.5%	26	10826	(35500)	10686	10686	10742	(35400)
11	SA/TL P/H/R(U)	ICS-105	Fine	28mm	3.5 - 4.9	4%	27	(38500)	(38300)	(38000)	(38000)	(38200)	(38000)
12	M/M(P)	ICS-105	Fine	28mm	3.7 - 4.5	3.5%	27	(42500) 11782 (41900)	(42600) 11782 (41000)	11782	11838	11923	(43100) 11923
13	SA/TL/K	ICS-105	Fine	28mm	3.7 - 4.5	3.5%	27	11810	11810	11810	11867	11951	(42400) 11951 (42500)
14	GUJ	ICS-105	Fine	28mm	3.7 - 4.5	3%	27	11838	11838	11838	11895	11979	(42500) 11979
15	R(L)	ICS-105	Fine	29mm	3.7 - 4.5	3.5%	28	11923	11951	11979	11979	(42600) 12063	12063
16	M/M(P)	ICS-105	Fine	29mm	3.7 - 4.5	3.5%	28	12120	12120	12120	12148	(42900) 12232	12232
17	SA/TL/K	ICS-105	Fine	29mm	3.7 - 4.5	3%	28	12148	12148	12148	12176	(43500) 12260	12260
18	GUJ	ICS-105	Fine	29mm	3.7 - 4.5	3%	28	(43200) 12148	12148	12148	12176	(43600) 12260	12260
19	M/M(P)	ICS-105	Fine	30mm	3.7 - 4.5	3.5%	29	12513	12513	(43200) 12513	12513	(43600) 12598	12598
20	SA/TL/K/O	ICS-105	Fine	30mm	3.7 - 4.5	3%	29	12541	12541	(44500) 12541	12541	(44800) 12626	12626
21	M/M(P)	ICS-105	Fine	31mm	3.7 - 4.5	3%	30	12935	12935	12935	12935	(44900) 13020	13020
22	SA/TL/	ICS-105	Fine	31mm	3.7 - 4.5	3%	30	12963	12963	12963	(46000) 12963	13048	(46300)
23	K / TN/O SA/TL/K/	ICS-106	Fine	32mm	3.5 - 4.2	3%	31	13104	13104	13104	13104	(46400) 13216	13216
24	TN/O M/M(P)	ICS-107	Fine	34mm	3.0 - 3.8	4%	33	18362	18362	18362	18362	(47000) 18419	18419
25	K/TN	ICS-107	Fine	34mm	3.0 - 3.8	3.5%	34	18981	18981	18981	18981	(65500) 19122	19122
	K/TN : Figures in brack					3.5%	34	18981 (67500)			18981 (67500)		(68

(Note: Figures in bracket indicate prices in Rs./Candy)

8 • 9th February, 2021