

Upgrading Seed Technology and Reducing Contamination for Doubling Farmers' Income

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(ICA), Member of Product Committee Cotton of Multi Commodity Exchange, Member of Advisory Committee of Board of Control Union Certifications of India, Member of Sub-Committee of Cotton Development & Research Activities (CDRA) and Member of CITI Sub-Committee of Cotton Fibre & Related Issues.

Cotton is a major cash crop of India. India has largest area under cotton cultivation that works out to be more than 35% of the world cotton area. India is producing about 6.3 million tons of the cotton that works out to be about 25% of the world cotton production.

The Indian cotton growth story can be understood in three phases:

In the early 70's: When India used to import massive volume of cotton from other cotton producing countries.

Period of hybrid varieties seed (mid 70's to 2002): Around the mid 70's, with the introduction of hybrid varieties seed, increased area and cotton development activities under the five-

year plans paved the way towards India's selfsufficiency in terms of cotton for textiles needs.

Introduction of BT seed (2002-03): Effort and research work for development of technology for the boll worm resistance and to protect the cotton crop from pest attack began in the early 90's. After the successful trials of BT cotton under Indian field conditions in the late 90's and early 2000, Bt cotton was commercially launched in India in the year 2002-03.



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Since the launching of BT cotton seed, the area under BT cotton sowing started increasing significantly year after year, resulting in increased yield of cotton from less than 300 kgs/ hectare in the early 90's to about 500 kgs/ha in 2000-2010. India achieved its highest yield of about 565 kgs/ha in the year 2013-14. Since then India has not achieved this level of yield again, rather the Indian cotton yield has been stagnant or is reducing.

Technology fatigue: Every new technology, at some point of time became obsolete. Same is the case with the Indian BT cotton seed. Over the years, the Indian cotton seed seems to have developed resistance to pest attacks. The same is evident from the attacks of the white fly witnessed in North India and appearance of the Pink Boll worm in Gujarat and Maharashtra for the last couple of years. This is a major threat to the growth of the Indian cotton economy.

Non Up-gradation of the Cotton Seed Technology: This is one of the key reasons for reduced cotton yields and recent pest attacks. It is the seed that has primarily impact over the overall growth of the plant. India's move for cutting down the royalty payable on cotton seed in the year 2016, made the cotton seed giant company 'Monsanto' to withdraw its launch of next technology seeds in India. Indian cotton cultivation is still done with the old technology seed and this is the main reason for pest attacks that are affecting the Indian cotton crop, both in terms of quantity and quality. It is the high time the India makes the next technology seed available in the country. If India can have the upgraded technology in the automobile, IT and telecom sectors, then why it can't have the same technology up gradation in cotton seed, because cotton gives us clothing one of three basic necessities for man.

Leading cotton producing economies like USA, China, Brazil and Australia that have adopted next the generation cotton seed technology, are benefiting from higher yields of cotton. These leading countries are also spending on their research and development activities, so as to further improve cotton farming practices ensuring less water and other resources usage.



Cotton yield for the year 2017-18

If we compare India's yield with major cotton producing economies, then it can be worked out that despite being the largest producer of cotton, India is far behind in terms of cotton yield. Its yield is even less than the world's average yield.

There is an urgent need to have cotton seed that is suitable to the Indian farm and weather conditions. We can also adopt high density planting system, with its emphasis on more number of plants per hectares instead of the present system of giving emphasis to more bolls per plant, in line with the other leading cotton producing countries.

Doubling the Farmer's Income by Improving the Cotton Yield

India has the world's largest area under cotton cultivation. With the abundance of area

under cotton (about 11 million hectares), merely improving upon the yield can create wonders in terms of cotton production. If India could even achieve a yield level of 850 kgs/ha (just 5% more than the present world average), then India would be producing about 9.4 million tons of cotton, that works out to be about 35% of the present world cotton production.

This will not only benefit the country, it will also almost double the income of the farmer in line with the of Indian Prime Minister's mission of 'Doubling Farmer's Income by 2022'.

If we look at the increased value of raw cotton produced in the country as a whole, then it will add to the value by more than 50% from the present level. However, if we take the value of the final processed product instead of

No		Scenario I	Scenario II		
	Particulars	Yield at present level of 550/kgs	Yield level 850/kgs; assuming about 20 % increase in actual input cost paid by farmer.		
A	Average yield of the country in kgs of lint /hectare	550	850		
В	Yield of seed cotton per hectare (taking 35% lint out turn in scenario I & 40% outturn in Scenario II)	1571	2125		
С	Average Revenue to farmer per hectare (@ Rs 4500 per quintal of seed cotton and Rs 5200 per quintal for seed cotton with higher lint out turn)	70714	110500		
D	Actual paid our cost @ Rs 2622/quintal (Actual paid out cost as commission for agriculture cost & Prices)	41203	49500		
Е	Returns to Farmer per hectare (C-D)	29511	61000		
Increased returns from the present level			107%		

Increase of Income for Cotton Farmer

raw cotton, then the increase in terms of value can be more than four times the present value of cotton production. The textile industry being so labour intensive, the increase of additional value in the textile chain, will also result in significant growth of employment in the country.

Reducing Contamination Can Increase Farmers' Income

There is a scope to improve the Indian cotton not in terms of quantity but also in terms of quality particularly from the contamination point of view.

Being roller ginned, Indian cotton has certain qualitative advantages over the other origin's saw ginned growth. Roller cotton has lower Neps and short fibres as compared to saw ginned cotton. Apart from this, Indian cotton has a soft touch feel.

- As per the survey conducted by the International Textiles Manufacturers Federation (conducted every alternative year), Indian cotton is ranked as the most contaminated growth in the world. Being hand-picked, Indian cotton gets contaminated with contaminants like hair, coloured threads, Polypropylene, feather, plastic, jute, etc.; during its movement right from the collection of the seed cotton from the cotton field to the ginning and pressing stage.
- Most of the Indian farmers collect seed cotton in fertilizer bags that are made of High Density Polyethylene (HDPE)/Polypropylene. While collecting the seed cotton in such bags, some particles and material of the bags also gets into the seed cotton and this multiplies at the ginning stage, because of the mechanical treatment to the seed cotton.
- During the spinning process, contaminants in the ginned cotton are processed into the yarn and further in the fabric that apparently appears differently in the dyed fabric.
- As a result, despite its quality, Indian cotton is discounted by about 10% as compared to the growths of other leading cotton producing countries like USA, Australia and Brazil that are considered to be least contaminated growths because they are mechanically

picked. As a result, Indian cotton is losing about USD 1 billion in value terms just because of contamination.

- If Indian farmers are able to control the contamination right from the field, then it will not only fetch them more income, but it can also add value in the entire cotton textile value chain by more than 10%. This can be done in two ways:
- 1. By providing cotton bags to the farmers so that seed cotton can be picked and transported to the ginning factories in these bags. Cotton bags can be provided to the cotton farmers under 'Swachh Cotton Abhiyan'. By collecting the seed cotton in this way, farmers will also be able to get a premium for their produce in the market.
- 2. Fertilizer companies can also be urged to use coloured plastic/ Polypropylene bags instead of white plastic or Polypropylene bags, because contamination removal instruments installed by the spinning mills at the blow room stage can only identify and remove the coloured contaminations. White coloured contaminations like white coloured polypropylene/white plastic cannot be traced by the cameras of the contamination removal instruments. By doing this, contaminants of white PP can be avoided in the end product (yarn or fabric), and this will fetch better price to the textile value chain.

To sum up, it can be said that by making available the next generation seed suitable to the Indian weather and farm conditions, the productivity of Indian cotton crop can be increased which will also result in to increasing the farmer's income and increase employment. Reducing the contamination in Indian cotton, will not only benefit the farmer by the way of fetching more price for seed cotton, but will also benefit the entire cotton textile value chain with its increased value.

(The views expressed in this column are of the author and not that of Cotton Association of India)

Glimpses of Ram Navami Celebrations

held at the Shree Ram Temple, Cotton Green, on April 13, 2019











COTTON EXCHANGE MARCHES AHEAD

Madhoo Pavaskar, Rama Pavaskar

Chapter 9 In Service of King Cotton

(Contd. from Issue No. 3 dated 16th April 2019)

Problems of Marginal Farmers". The theme was

chosen in the wake of reported suicides by some

Platinum Jubilee Programmes

A booklet entitled "Ready & NTSD Contracts – Need for Liberalization", prepared by Dr. Madhoo Pavaskar, was released at the hands of the Chief Guest. Dr. Pavaskar also summarised his view points on the subject at the meeting. Mr. C.H. Mirani, the former President of the Cotton Exchange, impressed the gathering with his incisive talk on "Need for National Cotton Board of India". The meeting also discussed the various issues and problems affecting the cotton trade. The Chief Guest and the Guest of Honour made valuable contributions during the

discussion, apart from addressing the gathering and offering appropriate advice to resolve the cotton problems.

The third Platinum Jubilee programme was held at Indore on January 18, 1998 to coincide with the All India Cotton Trade Associations' Meeting. Mr. Madhukar Verma, Mayor of Indore, represented the Chief Minister of Madhya Pradesh, as the Chief Guest. The participants to this programme were taken round Maikaal Bio-Farm and Maikaal Fibres Ltd. The trade problems too were discussed threadbare.

The next programme of the Association's Platinum Jubilee was held at Guntur in Andhra Pradesh

on April 10 and 11, 1998, and was hosted by Andhra Pradesh Cotton Association, Guntur. The Minister for Agriculture of Andhra Pradesh, Mr. K. Vidyadhara Rao, was the Chief-Guest, while the Minister for Panchayatraj and Rural Development, Dr. K. Shiva Prasad, was the Guest of Honour. Mr. Yedlapati Venkata Rao, M.P. and Mr. Sudhir Sanghi, Chairman, Indian Cotton Development Council, also graced the occasion. Besides the representatives of the cotton trade, the textile industry, the ginning and pressing sector and the cotton research institutions, several progressive farmers participated in the programme.

The main theme of the Seminar organised as a part of the programme was "Cotton Cultivation:



farmers in Andhra Pradesh, believed to be due to the crop failure and unremunerative prices. The Chief Guest as well as the Guest of Honour highlighted the problems of cotton farmers, as also those in other segments of cotton marketing. Several valuable research papers were read at the seminar by eminent scientists from the State as well as those from the neighbouring Karnataka and Tamil Nadu. The papers covered all the aspects of cotton cultivation - from variety development to economic viability

of marginal farms, including crop protection measures. The seminar proved extremely instructive and educative.

On the basis of the deliberations during the seminar, the deficiencies in the availability of finance and credit delivery system were identified, the need for various support systems for smooth and efficient marketing was realised and the call for immediate removal of unwanted statutory restrictions and constraints on the cotton trade and industry was loudly given. In this context, the Association's publication entitled "Towards Free Cotton Trade" was also released at the hands of the Chief Guest.

The fifth and the concluding function of the Platinum Jubilee was held at Mumbai on July 25, 1998, along with the All India Cotton Trade Associations' Meeting. The Union Textile Minister, Mr. Kashiram Rana, graced the occasion as Chief Guest. The Association's three publications referred to earlier, namely, "Cotton Miles to Go", "Glimpses of World Cotton" and "National Cotton Board of India" were released on this occasion.

To sum up, the Platinum Jubilee of the Cotton Exchange was more educative and instructive and driven to its final goal than a mere celebration. Verily, in the service of King Cotton, the 80 years old Cotton Exchange still marches ahead.

Since 1921, we are dedicated to the cause of Indian cotton.

Just one of the reasons, you should use our Laboratory Testing Services.

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 • Gujarat : Rajkot; Kadi; Ahmedabad • Andhra Pradesh : Adoni • Madhya Pradesh : Khargone • Karnataka : Hubli • Punjab : Bathinda • Telangana: Warangal, Adilabad

UPCOMING LOCATIONS

• Telangana: Mahbubnagar



COTTON ASSOCIATION OF INDIA

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UPCOUNTRY SPOT RATES (Rs./Qtl)												
	Standard Descriptions with Basic Grade & Staple in Millimetres based on Upper Half Mean Length [By law 66 (A) (a) (4)]					Spot Rate (Upcountry) 2018-19 Crop April 2019						
Sr. No.	Growth	Grade Standard	Grade	Staple	Micronaire	Strength /GPT	15th	16th	17th	18th	19th	20th
1	P/H/R	ICS-101	Fine	Below 22mm	5.0-7.0	15	11895 (42300)	11895 (42300)	11895 (42300)	11895 (42300)	11895 (42300)	11895 (42300)
2	P/H/R	ICS-201	Fine	Below 22mm	5.0-7.0	15	12035 (42800)	12035 (42800)	12035 (42800)	12035 (42800)	12035 (42800)	12035 (42800)
3	GUJ	ICS-102	Fine	22mm	4.0-6.0	20	10264 (36500)	10208 (36300)	10208 (36300)	10208 (36300)	10208 (36300)	10208 (36300)
4	KAR	ICS-103	Fine	23mm	4.0-5.5	21	11473 (40800)	11473 (40800)	11473 (40800)	11473 (40800)	11473 (40800)	11473 (40800)
5	M/M	ICS-104	Fine	24mm	4.0-5.0	23	11923 (42400)	11923 (42400)	11923 (42400)	11923 (42400)	11923 (42400)	11923 (42400)
6	P/H/R	ICS-202	Fine	26mm	3.5-4.9	26	12991 (46200)	12935 (46000)	13020 (46300)	13048 (46400)	13020 (46300)	13076 (46500)
7	M/M/A	ICS-105	Fine	26mm	3.0-3.4	25	11698 (41600)	11698 (41600)	11698 (41600)	11698 (41600)	11670 (41500)	11670 (41500)
8	M/M/A	ICS-105	Fine	26mm	3.5-4.9	25	12063 (42900)	12063 (42900)	12063 (42900)	12063 (42900)	12035 (42800)	12035 (42800)
9	P/H/R	ICS-105	Fine	27mm	3.5.4.9	26	13273 (47200)	13216 (47000)	13357 (47500)	13385 (47600)	13357 (47500)	13413 (47700)
10	M/M/A	ICS-105	Fine	27mm	3.0-3.4	26	11979 (42600)	11979 (42600)	11979 (42600)	11979 (42600)	11951 (42500)	11951 (42500)
11	M/M/A	ICS-105	Fine	27mm	3.5-4.9	26	12345 (43900)	12345 (43900)	12345 (43900)	12345 (43900)	12317 (43800)	12317 (43800)
12	P/H/R	ICS-105	Fine	28mm	3.5-4.9	27	13357 (47500)	13301 (47300)	13385 (47600)	13413 (47700)	13413 (47700)	13469 (47900)
13	M/M/A	ICS-105	Fine	28mm	3.5-4.9	27	12654 (45000)	12654 (45000)	12654 (45000)	12654 (45000)	12626 (44900)	12626 (44900)
14	GUJ	ICS-105	Fine	28mm	3.5-4.9	27	12795 (45500)	12766 (45400)	12795 (45500)	12795 (45500)	12795 (45500)	12795 (45500)
15	M/M/A/K	ICS-105	Fine	29mm	3.5-4.9	28	12935 (46000)	12935 (46000)	12935 (46000)	12991 (46200)	12963 (46100)	12963 (46100)
16	GUJ	ICS-105	Fine	29mm	3.5-4.9	28	12991 (46200)	12963 (46100)	12991 (46200)	13020 (46300)	12991 (46200)	12991 (46200)
17	M/M/A/K	ICS-105	Fine	30mm	3.5-4.9	29	13216 (47000)	13244 (47100)	13244 (47100)	13244 (47100)	13216 (47000)	13216 (47000)
18	M/M/A/K/T/O	ICS-105	Fine	31mm	3.5-4.9	30	13413 (47700)	13413 (47700)	13413 (47700)	13413 (47700)	13385 (47600)	13385 (47600)
19	A/K/T/O	ICS-106	Fine	32mm	3.5-4.9	31	13694 (48700)	13694 (48700)	13694 (48700)	13694 (48700)	13666 (48600)	13666 (48600)
20	M(P)/K/T	ICS-107	Fine	34mm	3.0-3.8	33	15803 (56200)	15691 (55800)	15691 (55800)	15635 (55600)	15578 (55400)	15578 (55400)

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