ANNUAL PERFORMANCE REVIEW – COTTON J34

2022-2023

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1. Background

a) Brief about the commodity such as sample picture, lifecycle and various varieties/grade of the commodity found in India

Cotton is a natural, soft fiber that grows with the seeds of the cotton plant. (Fiber is long and thin, like hair.) After, the cotton fiber is gathered from the plant, it can be spun into cotton thread. The cotton thread can then be made into cloth. The cloth can be used to make clothes for people and many other things.

There are different types of cotton plants. Some cotton plants grow wild in tropical and subtropical areas of the world. This is how cotton was discovered many years ago. Most of the cotton gathered to make cloth comes from crops grown on cotton plantations. Cotton is farmed in Africa, Asia, Europe, Australia, and the Americas.

Growth Stages of Cotton

The developmental phases for cotton can be divided into five main growth stages:

(1) germination and emergence

(2) seedling establishment

(3) leaf area and canopy development

(4) flowering and boll development

(5) maturation

Growth Stage	Days	Heat Units – DD60s
Planting to Emergence	4 to 9	50 to 60
Emergence to First Square	27 to 38	425 to 475
Square to Flower	20 to 25	300 to 350
Planting to First Flower	60 to 70	775 to 850
Flower to Open Boll	45 to 65	850 to 950
Planting to Harvest Ready	130 to 160	2200 to 2600
Source: Cotton.org		

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Value Chain for Cotton

Cotton is also one of the most important commercial crops cultivated in India. In the raw material consumption basket of the Indian textile industry, the proportion of cotton is around 59%. It plays a major role in sustaining the livelihood of an estimated 5.8 million cotton farmers and 40-50 million people engaged in related activity such as cotton processing & trade. The textile industry contributes significantly to the economy in terms of industrial output, employment generation and the export earnings of the country. It contributes about 4% to GDP, 14% to the industrial production and 17% to the country's export earnings. The Indian textile industry provides direct employment to over 35 million people. The textile sector is the second largest provider of employment after agriculture. India is one of the few countries in the world to have a well-established, complete value chain in the textile industry.

Supply chain is typically thought to be linear - a simple string of value chain actors that transform a raw material into a final product. For cotton, this involves

1) picking the cotton ball – which is Kapas

2) separating the lint from stems and other materials (ginning)

3) spinning the lint into yarn

4) knitting or weaving the yarn into fabric

5) converting the fabric into a final product

6) distributing and selling the product, and finally using the product. These activities occur within a global marketplace—an extensive physical infrastructure that connects buyers and sellers worldwide, all supported by an international financial market. Considering such a large value chain, there is possibility of high number of participants interested in derivatives trading of cotton.

b) Commodity fundamentals and balance sheet as per the following format (to be prepared based on publicly available information on best effort basis

Global Cotton Scenario		
1000 MT (Season Beginning August 1)	2021-22	2022-23
Production	25,208	25,325
Imports	9,280	8,085
Exports	9,362	8,226
Consumption	25,234	23,752
Closing Stocks	18,759	20,224
Source: United States Department of Agriculture ***June reports are considered for the years 2021-22 & 2022-23***		

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India Cotton Scenario		
In lakh bales of 170 kgs	2021-22 (P)	2022-23 (P)
Opening Stocks	71.84	39.48
Production	311.17	343.47
Import	21.13	10.00
Total Supply	404.14	392.95
Exports	42.25	30.00
Domestic Consumption	322.41	311.00
Closing Stocks	39.48	51.95
Source : Cotton Corporation of India		

Top 10 Major producing countries

Top 10 Major producing countries (in 1000 MT)			
Country	2021-22	Country	2022-23
China	5,879	China	6,684
India	5,552	India	5,443
United States	3,815	United States	3,150
Brazil	2,874	Brazil	2,874
Pakistan	1,306	Australia	1,197
Australia	1,197	Turkey	1,067
Turkey	827	Pakistan	849
Other	599	Other	4,060
Source: United States Department of Agriculture			

Top Major Consuming Countries

Top 10 Major Consuming countries (in 1000 MT)			
Country	2021-22	Country	2022-23
China	7,348	China	7,947
India	5,443	India	5,008
Pakistan	2,330	Pakistan	1,872
Bangladesh	1,851	Bangladesh	1,589
Turkey	1,894	Turkey	1,589
Vietnam	1,459	Vietnam	1,393
Brazil	718	Brazil	697
Other	4,191	Other	3,656
Source: United States Department of Agriculture			

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Top 10 Major Exporting countries

Top 10 Major Exporting countries (in 1000 MT)			
Country	2021-22	Country	2022-23
United States	3,184	United States	2,830
Brazil	1,682	Brazil	1,415
Australia	779	Australia	1,459
India	815	Greece	278
Greece	311	India	272
Benin	305	Benin	239
Mali	283	Mali	163
Other	2,003	Other	1,569
Source: United States Department of Agriculture			

Top 10 Major Importing countries

Top 10 Major Importing countries (in 1000 MT)			
Country	2021-22	Country	2022-23
China	1,707	China	1,415
Bangladesh	1,785	Bangladesh	1,459
Vietnam	1,444	Vietnam	1,383
Turkey	1,203	Pakistan	936
Pakistan	980	Turkey	871
Indonesia	561	India	381
India	218	Indonesia	327
Other	1,382	Other	1,313
Source: United States Department of Agriculture			

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Top 10 Major producing States in India

Top 10 Major producing states in India (in lakh bales of 170 kg)			
State	2021-22	State	2022-23(p)
Maharashtra	82.49	Gujarat	94.97
Gujarat	75.09	Maharashtra	84.09
Telangana	48.78	Telangana	53.13
North total	44.43	North total	42.34
Rajasthan	24.81	Rajasthan	27.74
Karnataka	19.55	Karnataka	25.41
Andhra Pradesh	17.08	Madhya Pradesh	17.22
Madhya Pradesh	14.2	Andhra Pradesh	15.79
Haryana	13.16	Haryana	10
Punjab	6.46	Orissa	6.65
Source : Cotton Corporation of India **** = provisional***			

c) Major changes in the polices governing trade in the spot markets of the commodity

- The Central Board of Indirect Taxes and Customs (CBIC) notified the exemption from Customs duty and Agriculture Infrastructure development Cess for import of cotton. This notification came come into effect from 14th April 2022 and till 30th September 2022. This was further extended till October 31, 2022.
- For Marketing Season 2022-23, the MSP of cotton was increased to 6080/Quintal for medium staple and 6380/quintal for Long Staple.

d) Geopolitical issues in the commodity and its impact on Indian scenario

- There were no major geo political issues which had any significant on cotton prices in India for financial year 2022-23

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2. Trading related parameter

a) Monthly and Annual traded volume

Month	Traded Volume (in Bales)
Apr-22	47,025
May-22	42,525
Jun-22	30,625
Jul-22	28,675
Aug-22	36,750
Sep-22	50,725
Oct-22	44,025
Nov-22	18,775
Dec-22	14,700
Jan-23	12,700
Feb-23	11,975
Mar-23	10,925
Total	**3,49,425**

b) Annual traded volume as proportion of total deliverable supply: 0.88%

- Annual Traded Volume: 3,49,425 bales
- Deliverable Supply: 3,92,95,000 bales

c) Annual traded volume as proportion of total annual production: 1.07%

- Annual Traded Volume: 3,49,425 bales
- Annual Production: 3,43,47,000 bales

d) Annual average Open interest as proportion of total production: 0.0002%

- Annual Average OI: 75
- Annual Production: 3,43,47,000 bales

e) Annual average Open interest as proportion of total deliverable supply: 0.00019%

- Annual Average OI: 75
- Deliverable Supply: 3,92,95,000 bales

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f) Monthly and Annual value of trade

Month	Value of Trade (In Crores)
Apr-22	209.72
May-22	208.21
Jun-22	143.43
Jul-22	114.02
Aug-22	144.19
Sep-22	167.00
Oct-22	138.21
Nov-22	60.04
Dec-22	44.32
Jan-23	37.65
Feb-23	36.07
Mar-23	32.52
Total	**1,335**

g) Monthly and Annual quantity of delivery

Month	Quantity of delivery (Bales)
Apr-22	175
May-22	1,250
Jun-22	-
Jul-22	-
Aug-22	-
Sep-22	-
Oct-22	-
Nov-22	-
Dec-22	-
Jan-23	-
Feb-23	-
Mar-23	-
Total	**1,425**

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h) Monthly and Annual value of delivery

Month	Value of delivery (in Rs)
Apr-22	78,92,500
May-22	6,20,00,000
Jun-22	-
Jul-22	-
Aug-22	-
Sep-22	-
Oct-22	-
Nov-22	-
Dec-22	-
Jan-23	-
Feb-23	-
Mar-23	-
Total	**6,98,92,500**

i) Monthly and Annual Average Open Interest (OI)

Month	Average OI (In bales)
Apr-22	250
May-22	250
Jun-22	75
Jul-22	175
Aug-22	-
Sep-22	-
Oct-22	25
Nov-22	50
Dec-22	50
Jan-23	50
Feb-23	50
Mar-23	25
Apr-22	-

Annual Average OI = 75

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j) Annual average volume to open interest ratio: 1,833

- Average of Traded Volume = 1,375 bales
- Average of Open Interest = 75 bales

k) Total number of unique members and clients who have traded during the financial year

- Unique members = 4
- Unique clients = 4

l) Ratio of open interest by FPOs/farmers/Hedge/VCP positions to total open interest (Annual average as well as maximum daily value)

- Not available

m) Number of unique FPOs / farmers and VCPs/hedgers who traded in the financial year

- Not Available

n) Algorithmic trading as percentage of total trading

- 23.25

o) Delivery defaults

- Number of instances =1
- Quantity involved = 75 bales
- Value involved = 33,63,000 rs

3. Price movements

a) Comparison, correlation, and ratio of standard deviation of Exchange futures price vis-à-vis international futures price (wherever relevant comparable are available)

- The correlation between Exchange futures and International futures Prices was 0.9363
- The ratio of Standard Deviation was 0.67

b) Comparison, correlation, and ratio of standard deviation of Exchange futures price vis-à-vis international spot price (wherever relevant comparable are available) and domestic spot price (exchange polled price

- The correlation between Exchange futures and International Spot Prices was 0.9514
- The ratio of Standard Deviation was 0.77

c) Correlation between exchange futures & domestic spot prices along with ratio of standard deviation.

- The correlation between Exchange futures and Exchange Spot Prices was 0.9527
- The ratio of Standard Deviation was 0.97

d) Correlation between international futures & international spot prices along with ratio of standard deviation (wherever relevant comparable are available)

- The correlation between international futures and International Spot Prices was 0.9806
- The ratio of Standard Deviation was 1.15

e) Comparison of Exchange polled price and mandi price (in case of agricultural commodities) / other relevant price (in case non-agricultural commodities) at basis centre

f) Maximum & Minimum value of daily futures price volatility and spot price volatility along with disclosure of methodology adopted for computing the volatility.

Commodity	Max Daily Futures Price Volatility %	Min Daily Futures Price Volatility %	Max of Daily Spot Price Volatility %	Min of Daily Spot Price Volatility %
Cotton	5.84%	-10.54%	6.65%	-10.32%

g) Number of times the futures contract was in backwardation/contango by more than 4% for the near month contract in the period under review

Instances of Contango – 24

Instances of Backwardation - 42

4. Other's parameters

a) Qualitative and quantitative measure for Hedge effectiveness ratio and basis Risk (Volatility of Basis) along with disclosure of methodology adopted for such calculations.

- **Hedge Effectiveness for FY 22-23**

Commodity	Hedge Efficiency
Cotton J34	90.76%

Note: Hedging efficiency is the 'R Square' value of the regression equation between BSE futures prices and BSE polled spot prices during the financial year

- **Basis Risk for FY 2022-23**

Commodity	Unit	Average Return of Basis (Unit)	Standard deviation
Cotton J34	Rs/bales	0.08	2.95

- ***Note: Basis Risk is computed as the Standard deviation of daily normal return in Basis, which is excess of Spot over Futures price.***

b) Details about major physical markets of the commodity vis-à-vis market reach in terms of availability of delivery centers (information to be provided state-wise and UT-wise)

Name of State	Name of the physical markets	Market Reach of Exchange delivery centers
Gujarat	Keshod, Bardoli, Jetpur Pavi, Gondal, Balasienor, Rajkot, Babra, Amreli, Sabarkantha, Visnagar, Vijapur, Halvad, Unai, Manavadar, Bevla, Mansa, Mandvi, Kutch.	Rajkot- Basis Centre Kadi, Mundra -Additional Delivery Centres
Maharashtra	Nagpur, Narkhed, Nanded, Yavatmal, Hinganghat, Wardha, Pulgaon,Akola, Amaravati, Murtizapur, Aurangabad, Jalna, Sillod, Dhule, Jalgaon	Yavatmal, Jalna -Additional Delivery Centres
Punjab	Bhatinda, Ferojpur, Sangur, Muktsar, Faridkot, Mansa	No delivery centre
Haryana	Hisar, Fatehabad, Sirsa, Bhiwani, Rohtak, Panipat, Jind, Kaithal, Gurgoan	No delivery centre
Karnataka	Bailhogal, Bellary, Bijapur, Gadaj, Haliyal, Hubli, Kottur, Jamkhand, Raichur, Ranebennur, Savadatti, Shimoga, Yellapur	No delivery centre
Madhya Pradesh	Badwani, Betul, Chindwara, Dhar, Dewas, Harda, Jhabua, Khandwa, Khargone, Ratlam, Shajapur	No delivery centre
Telangana	Adilabad, Warangal, Nirmal,	Warangal-Additional Delivery Centre
Andhra Pradesh	Guntur, Khammam	No delivery centre
Rajasthan	Hanumangarh, Pili Banga, Sriganga– nagar, Palampur, Sangriya,Suratgarh, Sri Vijayanagar, Shadulshakar, Rawatsar, Kherthal,Bijaynagar, Rajsighnagar.	No delivery centre
Tamil Nadu	Cuddallore, Villupuram, Vellore, Thiruvannamalai, Salem,Dharamapuri, Coimbatore, Erode, Tiruchilapalli, Thanjavur,	No delivery centre

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c) Details about major physical markets of the commodity and average Open Interest for each month generated from those regions

Details about physical markets are given above. Region-wise open interest is not available

d) Details, such as number and target audience, of stakeholders' awareness programs carried out by the exchange

SNo	Program Type	Location	No of participants
1	CottonJ34 Core Committee meeting	Webinar	15
2	Cotton PAC Meet	Webinar	22
3	Product Advisory Committee Meeting	Webinar	29
4	Cotton J34 futures: An effective hedging tool in volatile markets in association with IMC	Webinar	56
5	Awareness Program on Cotton J34 Futures Contract: An Effective Hedging Tool in Volatile Markets in association with IMC	Webinar	59
6	Agrovision Event	Nagpur	500
7	Profitable Agriculture Price Discovery & Price Risk Management in association with Investor Protection Fund and Cotton Guru	Alwar	35
8	Profitable Agriculture Price Discovery & Price Risk Management in association with Investor Protection Fund and Cotton Guru	Chittor	40
9	Profitable Agriculture Price Discovery & Price Risk Management in association with Investor Protection Fund and Cotton Guru	Nagor	30
10	Profitable Agriculture Price Discovery & Price Risk Management in association with Investor Protection Fund and Cotton Guru	Alwar	78
11	Profitable Agriculture Price Discovery & Price Risk Management in association with Investor Protection Fund and Cotton Guru	Sirsa	50

Exchange organized 5 webinars in association with Investor Protection Fund and Cotton Guru for FPO's and farmers. All these webinars are also available on YouTube channel for the benefit of all. The webinars were arranged to create awareness amongst the FPO's and Farmers producing Cotton on how to utilize Exchange's platform to mitigate their price risk, better price discovery and to avail benefit of delivery in the Exchange platform

Exchange organised series of awareness session in association with Investor Protection Fund and National skill Foundation of India (NSFI) for Commodity Derivatives Segment. The topic for discussion included the following :

- Introduction to Commodity Exchange
- Introduction to Aggregation Principles

e) Steps taken / to be undertaken to improve hedging effectiveness of the contracts as well as to improve the performance of illiquid contracts.

We propose to have the following to improve effectiveness in the contract.

- Awareness sessions at Delivery Centres, Additional Delivery Centre and various other potential centres and regions.
- Product Specific Seminars/Webinars.