MCX
METAL & ENERGY
Trade with Trust



COTTON

PERFORMANCE REVIEW

2022-2023

FOREWORD TO THE COTTON PERFORMANCE REVIEW

The Cotton Performance Report (PR) is the outcome of the SEBI circular SEBI/HO/CDMRD/DNPMP/CIR/P/2020/21 dated February 04, 2020 directing all recognized Stock Exchanges offering commodity derivatives segment to create a 'Performance review of the commodity derivatives contracts'. The PR, based on SEBI directive, has to be uploaded on the Exchange website by June 30, 2023 after consultation with the respective Product Advisory Committee (PAC).

Following the above directive, the Agri - Product Management Team (PMT) at the Exchange has created PRs for all the listed Agri products. These have since been prepared in consultation with the respective Commodity/Commodity Complex PACs.

The Cotton Performance Report highlights the important aspects of the trade like the domestic and international supply, import and export statistics, etc. There is also extensive information on the volume, turnover, open interest, deliveries of Cotton on the Exchange, along with the price correlations with spot markets, international market and hedging efficiency to help the market participants get an empirical understanding of the performance of the Cotton contract on the Exchange.

Acknowledgement

We have been ably guided by the MCX Cotton Complex PAC members in improving the content of the report and we are extremely thankful to them. We hope to keep improvising the report going forward.

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

Brief about Cotton

Cotton is a natural fiber and one of the most important textile fibers. Cotton is classified based on staple, grade and character of each bale-staple refers to the fibre length; grade ranges from coarse to premium and is a function of colour, brightness, and purity; and character refers to the fibre's strength and uniformity.

It is a heavily traded agricultural commodity with a number of countries involved in exporting or importing cotton. India is the largest cotton producing and 3rd largest exporting country in the world.

Sample picture



Life cycle

Cotton is grown in India in three zones with different sowing and harvesting periods during the season from October-September.

North Zone	Central Zone	South Zone
Punjab, Haryana, Rajasthan	Gujarat, Maharashtra, Madhya Pradesh	Telangana, Andhra Pradesh, Tamil Nadu, Karnataka
Sowing		
April, May	June, July	July, August, September
Harvesting		
September, October	October, November, December	December, January, February
Staple length		
Medium & Short Staple	Medium & Long Staple	Long & Extra Long Staple

Cotton in India is generally not stored for more than a year. This stored Cotton can be prone to deterioration in grade, colour and quality. The extent of deterioration depends on the condition and period of storage, the variety of Cotton, the atmospheric conditions like humidity, rainfall, etc., prevailing during this period, ventilation and incidence of pests in the godowns, etc.

Various varieties/grade

The Cotton is classified in five different groups of staple lengths of fibers. India has the advantage of growing all species of cotton i.e. from short staple 20 mm & below, medium staple (20.5 to 24.5 mm), medium long (25.0 to 27.0 mm), long (27.5 to 32.0 mm) and extra-long staple cottons (32.5 mm and above).

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

Cotton fundamentals

- Demand and supply scenario and inventory levels
- Weather, pests, diseases and other risk factors associated with agricultural crops
- Government policies on Imports- Exports, Kapas MSP, Tariff & Non-tariff barriers including taxes, quota
- Cotton yarn prices in different markets across the country
- Economic conditions e.g. recession, inflation
- Trend in other fast-growing economies
- Geo-political factors – Global and India
- Prices ruling in the international markets
- Forex rates

Table - Balance Sheet

Global Scenario ('000 MT)	2021-22	2022-23
Opening Stocks	18772	18759
Production	25208	25334
Consumption	25235	23870
Closing Stocks	18759	20169
All figures are in '000 MT. Source – USDA		

Cotton Balance Sheet		
Indian Scenario (‘000 MT)	**2021-22 (P)***	**2022-23 (P)***
Opening Stocks	1221.28	671.16
Production	5289.89	5732.91
Imports	359.21	170.00
Total Supply	6870.38	6574.07
Exports	718.25	510.00
Domestic Consumption	5480.97	5287.00
Closing Stocks	671.16	777.07
Source- As estimated by Committee on Cotton Production and Consumption (COCPC), P-Provisional.		

Top 10 Major producing countries (‘000 MT)	**2021-22**	**2022-23**
China	5835	6684
India	5313	5334
USA	3815	3150
Brazil	2552	2830
Australia	1274	1197
Turkey	827	1067
Pakistan	1306	849
All figures are in ‘000 MT. Source – USDA		

Top 10 Major consuming countries (‘000 MT)	**2021-22**	**2022-23**
China	7348	7947
India	5443	5008
Pakistan	2330	1872
Bangladesh	1851	1633
Turkey	1894	1589
Vietnam	1459	1393
Brazil	718	697
All figures are in ‘000 MT. Source – USDA		

Top 10 Major exporting countries (‘000 MT)	2021-22	2022-23
USA	3184	2473
Brazil	1682	1502
Australia	779	1415
India	815	305
Greece	311	278
Benin	305	261
Mali	283	196
All figures are in ‘000 MT. Source – USDA		

Top 10 Major importing countries (‘000 MT)	2021-22	2022-23
Bangladesh	1785	1502
China	1707	1481
Vietnam	1444	1372
Pakistan	980	936
Turkey	1203	871
Indonesia	561	370
India	218	381
All figures are in ‘000 MT. Source – USDA		

Top 10 Major producing states in India (‘000 MT)	2021-22 (P)*	2022-23 (P)*
Punjab	109.82	77.18
Haryana	223.72	292.40
Rajasthan	421.77	433.67
Gujarat	1276.53	1481.04
Maharashtra	1402.33	1391.45
Madhya Pradesh	241.40	258.23
Telangana	829.26	924.97

Andhra Pradesh	290.36	320.45
Karnataka	332.35	365.16
Tamil Nadu	51.34	60.52
Odisha	106.42	122.91
Others	4.59	4.93
All India	5289.89	5732.91
Source- As estimated by Committee on Cotton Production and Consumption (COCPC), P-Provisional.		

c. Major changes in the policies governing trade in the spot markets of the commodity.

Union Minister of Textiles, Commerce & Industry, Consumer Affairs and Food & Public Distribution, Honorable Shri Piyush Goyal held second interactive meeting with the Textile Advisory Group (TAG), in Mumbai, on 14.07.2022 to review progress of work. Shri Goyal emphasized that supply of good quality cotton seeds is the vital necessity for improving productivity of cotton. He also emphasized the need to introduce advanced technologies related to high yielding cotton seeds and innovative agronomy such as High-Density Planting System to enhance productivity of cotton. He directed the Cotton Corporation of India to lend Agricultural Extension Services in co-operation with Indian Council of Agricultural Research (ICAR) to our farmers through its network of branches all over India. Honorable Shri Piyush Goyal wishes industry to focus on quality consciousness across the value chain and assured that initiatives for supporting modern facilities would be facilitated. Textile Value Chain needs to strengthen traceability technologies and testing facilities in the country. Source: PIB Release, July 15, 2022.

d. Geo-political issues in the commodity and its impact on Indian scenario.

There is no major geo-political issues and its impact on Indian scenario of Cotton.

2. Trading related parameter

a. Monthly and Annual traded volume (quantity in appropriate units)

Month	Traded Quantity (MT)
APR'22	1,80,111
MAY'22	1,23,067
JUN'22	97,329
JUL'22	59,742
AUG'22	43,805
SEP'22	38,998
OCT'22	48,646
NOV'22	95,464
DEC'22	48,433

JAN'23	No Contract
FEB'23	12,546
MAR'23	15,141
2022-23	7,63,281

b. Annual traded volume as proportion of total deliverable supply (quantity in appropriate units)

	Annual traded volume (MT)	**Deliverable Supply (MT)**
2022-23	7,63,281	65,74,070
Annual traded volume as proportion of deliverable supply	11.61%	

c. Annual trade volume as proportion of total annual production (quantity in appropriate units)

	Annual traded volume (MT)	**Production (MT)**
2022-23	7,63,281	57,32,910
Annual traded volume as proportion of production	13.31%	

d. Annual average Open interest as proportion of total production

	Annual average OI (MT)	**Production (MT)**
2022-23	3817	57,32,910
Annual daily average OI as proportion of production	0.067%	

e. Annual average Open interest as proportion of total deliverable supply

	Annual average OI (MT)	**Deliverable Supply (MT)**
2022-23	3817	65,74,070
Annual average OI as proportion of deliverable supply	0.058%	

f. Monthly and Annual value of trade (in Rs. Crores)

Month	Volume (Rs.cr)
APR'22	4664.16
MAY'22	3465.73
JUN'22	2562.66
JUL'22	1484.14
AUG'22	1087.14
SEP'22	759.68
OCT'22	887.33
NOV'22	1771.01
DEC'22	879.92
JAN'23	No Contract
FEB'23	224.14
MAR'23	263.53
2022-23	18049.44

g. Monthly and Annual quantity of delivery (in appropriate units)

Month	Delivery (MT)
APR'22	5,053.25
MAY'22	2,834.75
JUN'22	603.50
JUL'22	408.00
AUG'22	1,003.00
SEP'22	No contract Expiry
OCT'22	416.50
NOV'22	3,922.75
DEC'22	3,166.25
JAN'23	No contract
FEB'23	No Contract Expiry
MAR'23	No Contract Expiry
2022-23	**17,408.00**

h. Monthly and Annual value of delivery (Rs. Crore)

Month	Delivery Settled Amount
APR'22	132.02
MAY'22	80.43
JUN'22	16.45
JUL'22	10.38
AUG'22	28.50

SEP'22	No contract Expiry
OCT'22	7.68
NOV'22	76.02
DEC'22	53.10
JAN'23	No contract
FEB'23	No contract Expiry
MAR'23	No contract Expiry
2022-23	**404.58**

i. Monthly and Annual Average Open Interest (OI) (in appropriate units)

Month	Average OI (MT)
APR'22	8833.63
MAY'22	6367.18
JUN'22	2590.53
JUL'22	1649.42
AUG'22	2295.73
SEP'22	2756.19
OCT'22	4174.58
NOV'22	7572.24
DEC'22	7202.78
JAN'23	No Contract
FEB'23	1322.46
MAR'23	2028.54
2022-23	**3817.12**

j. Annual Average volume to open interest ratio

	Average traded volume (MT)	Average OI (MT)
2022-23	3333	3817.12
Annual average volume to open interest ratio	0.87	

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

Commodity	Unique Members	Unique Client
COTTON	**153**	2479
COTTONCNDY	**61**	188

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

Commodity	Average of Open Interest	Unit	Average based weekly data: Average of FPOs/ Farmers/ VCPs/ Hedgers		Average based weekly data: Average of Long & Short % FPOs/ Farmers/ VCPs/ Hedgers		Maximum Open Interest: FPOs/ Farmers/ VCPs/ Hedgers	
			Long	Short	Long	Short	Long	Short
COTTON	71167	Bales	44746	32505	12018	8952	181400	76250
COTTONCNDY	10088	Candy	693	1433	209	465	3168	3600

Note: Details are provided based on daily disclosure on the Exchange website for the period April 2022 to March 2023 in line with SEBI circular no SEBI/HO/CDMRD/DNPMP/CIR/P/2019/08 Dated January 04, 2019 Based on the data provided by the members from time to time pertaining to Farmers/ FPOs, VCPs/ Hedgers.

m. Number of unique FPOs/farmers and VCPs/hedgers who traded in the financial year. Based on the classification provided by the members as on March 31, 2023 for clients traded during FY 2022-23.

Commodity	Farmers/FPOs	Value Chain Participants (VCPs)/Hedgers
COTTON	1	211
COTTONCNDY	-	19

n. Algorithmic trading as percentage of total trading

2022-23	Algorithmic trading as % of total trading
COTTON	11.48
COTTONCNDY	2.68

o. Delivery defaults

Number of instances	Quantity involved (MT)	Value involved (Rs. Crs)
2	420.75	11.34

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).

Comparison

Correlation & Standard deviation of MCX & ICE futures price

Correlation between MCX Cotton futures prices and ICE futures prices in 2022-23	0.82
Standard Deviation of MCX Cotton futures prices in 2022-23	2.79
Standard Deviation of ICE Cotton futures prices in 2022-23	3.14
Ratio of Standard Deviation of MCX Cotton futures prices to ICE prices in 2022-23	0.89

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 international spot prices (ICE) data for Cotton could not be obtained.

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

Correlation between MCX Cotton futures prices and spot prices in 2022-23	**0.96**
Standard deviation of MCX Cotton futures prices in 2022-23	2.79
Standard deviation of MCX Cotton spot prices in 2022-23	1.18
Ratio of Standard deviation of MCX Cotton futures prices to spot prices in 2022-23	2.37

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

The international spot prices (ICE) data for Cotton could not be obtained.

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.

The local mandi prices for Cotton could not be obtained.

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

	Maximum Daily Volatility	Minimum Daily Volatility
MCX Futures price	6.19%	0%
MCX Spot price	2.92%	0%

Methodology adopted for computing volatility -
Volatility in any particular trading day is calculated by the formula given below-
Volatility = ln (Price/Previous day's price)*100

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.

Sixty one (61) times the futures contract was in backwardation/contango by more than 4% for the near month contract in 2022-23.

4. **Other 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

Hedging Efficiency for 2022-23	
Commodity	**Hedge Ratio**
Cotton	0.2883
- Hedging efficiency is the value of Coefficient of Determination (R2) obtained from regressing changes in five-day moving average of daily MCX Spot Prices on changes in five-day moving average of daily MCX Futures Prices during the period.	

Basis Risk for 2022-23			
Commodity	**Unit of Basis**	**Avg Return of Basis**	**Basis Risk**
Cotton	Rs/bale	-0.05	2.10
- Basis Risk is computed as the Standard Deviation of normal returns in Basis, which is excess of Spot over Futures price. In case Basis is zero for any day, next day's Basis return has been ignored for computing the Standard Deviation.			

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, Kadi, Mundra
Maharashtra	Nagpur, Narkhed, Nanded, Yavatmal, Hinganghat, Wardha, Pulgaon,Akola, Amaravati, Murtizapur, Aurangabad, Jalna, Sillod, Dhule, Jalgaon	Yavatmal, Jalna

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,	Adilabad,Warangal
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, Pudukottai, Dindigul, Madurai, Theni, Virudhanagar, Tirunelveli	No delivery centre
Orissa	Ganjam, Roygoda, Karaput, Kalahandi, Navaranpur, Bolangir, Dhenkenal,	No delivery centre

Source: Trade estimate.

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.

Overall, the PMT – Agri team conducted 99 programs in the Agri segment and the target participants were primarily the physical participants, especially, the Farmers and Farmer Producing Organisations (FPOs) associated with the commodities listed on the MCX platform.

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

The exchange strives to ensure that the contract remains a healthy replica of the physical market. We do one-on-one meetings and Product Advisory Committee (PAC) meetings with the physical market participants to make modifications in the contract to make it more lucrative for physical participants to participate in the contract.

4. Any other information to be disclosed as deemed important by the exchange or as suggested by the PAC.

No other information to be disclosed.

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