

Parameters for Performance Review of Commodity

Cotton Seed Oil Cake

1. Background

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

Cotton Seed Oil Cake is a processed commodity. When Raw Cotton (Kapas) is ginned, the Cotton Lint and Cotton seed get separated. When Cotton seed is crushed for extraction of oil, the by-product which remains after extraction of oil is called Cotton seed oil cake or Kapasia Khali in Hindi. Cotton seed oilcake extracted by scientific method is called Decorticated Cotton seed oil cake and that extracted by primitive method is called undecorticated cotton seed oilcake. More than 95% of the Cotton seed processed in India is extracted by the primitive method. Good quality oilcake is greenish yellow in colour. Cotton Seed Oilcake has 6% oil content in general and greater the oil content in Cotton Seed Oil cake, better is the quality.



Cotton seed oil cake is majorly used as cattle feed since it has around 25% protein content in it. Consumption of Cotton Seed Oilcake by cattle does add viscosity to the milk. Cotton seed oil cake, a leading protein supplement, provides necessary proteins for animal maintenance, growth and development and also conserves available supplies of grain and roughages. Cotton seed oil cake has six times protein of most grains and 10 to 20 times that of lower quality roughages. One pound of cotton seed oil cake is equivalent to two and a half to three pounds of grain in terms of nutrition to dairy animals. It is also used as fertilizer - either alone or in mixtures with other ingredients.

Crop Cycle:

Cotton seed oil cake is a processed commodity. Thus crop cycle is not applicable for it. Generally, fresh production of Cotton seed oil cake starts after the new season Kapas arrivals begin in different regions of India. As soon as arrivals of Kapas starts in October, the further activities like ginning and crushing too start may be, with a gap of approx. 15 days and Cotton Seed Oil Cake generally starts from November onwards.

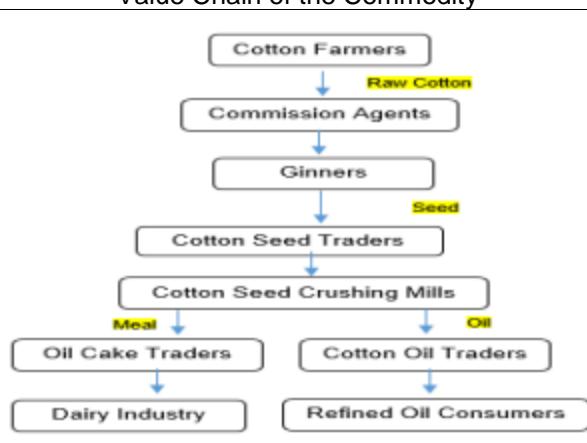
Life Cycle: Value Chain of the Commodity	Major Varieties /Grade												
 <pre> graph TD CF[Cotton Farmers] --> RC[Raw Cotton] RC --> CA[Commission Agents] CA --> G[Gingers] G --> CSTR[Cotton Seed Traders] CSTR --> CSCM[Cotton Seed Crushing Mills] CSCM --> O[Oil] CSCM --> M[Meal] M --> OCT[Oil Cake Traders] O --> COT[Oil Consumers] OCT --> DI[Dairy Industry] COT --> ROC[Refined Oil Consumers] </pre>	<p>Major Varieties</p> <p>N/A (It is Processed commodity)</p> <p>NCDEX Quality Parameters</p> <table border="1"> <tbody> <tr><td>Moisture</td><td>9% (Max)</td></tr> <tr><td>Oil Content</td><td>6% (Min)</td></tr> <tr><td>Fibre</td><td>27% (Max)</td></tr> <tr><td>Sand and Silica</td><td>2.5% (Max)</td></tr> <tr><td>Protein</td><td>22% (Min)</td></tr> <tr><td>Colour</td><td>Greenish yellow</td></tr> </tbody> </table> <p>Free from adulterants like Rice bran cake, Rice bran husk, Castor seed husk, Safflower cake</p>	Moisture	9% (Max)	Oil Content	6% (Min)	Fibre	27% (Max)	Sand and Silica	2.5% (Max)	Protein	22% (Min)	Colour	Greenish yellow
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Protein	22% (Min)												
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Table: Reference Years for Commodities

Sl. No.	A	B	C
Crop Season	Kharif	Kharif (Long Duration crop)	Rabi
Crops	Paddy, Maize, Bajra, Moong, Soybean, Guar seed, Kapas, Sesame Seed	Castor and Turmeric	Wheat, Barley, Chana, RM Seed, Coriander, Jeera
Relevant Processed commodities	Guar gum, Soybean meal, Soy oil, Cotton, Cotton seed Oil cake, Gur, CPO	Castor Oil	-
Sowing Time	July onwards	July onwards	October onwards
Harvesting Time	Oct onwards	Jan onwards	March onwards
Reference Year Financial Year 2022-23 (Apr-Mar)			
Corresponding Years			
Production Year (PY)	2022-23 (July-Sept)	2021-22 (July-June)	2021-22 (July-June)
Marketing Year (MY)	2022-23 (Oct-Sept)	2022-23 (Jan/Feb-Dec/Jan)	2022-23 (Mar/Apr - Feb/Mar)
Calendar Year (CY)	2022 (Jan-Dec)	2022 (Jan-Dec)	2022 (Jan-Dec)
Relationship b/w Various Years	Current Financial Year = Current Production Year = Current Marketing Year = Calendar Year	Current Financial Year = Previous Production Year = Current Marketing Year = Current Calendar Year	Current Financial Year = Previous Production Year = Current Marketing Year = Current Calendar Year
Example	FY 2022-23 = PY 2022-23 = MY 2022-23 = CY 2022	FY 2022-23 = PY 2021-22 = MY 2022-23 = CY 2022	FY 2022-23 = PY 2021-22 = MY 2022-23 = CY 2022

Note: Coffee is a plantation crop; hence, it is not classified under either Kharif or Rabi season in the above table.

Explanatory Notes:

- India is a vast country and various crops are sown and harvested at different point of time. However, two major crop seasons, are there i.e. Kharif & Rabi. Apart from it, Zaid/Summer season is also there.
- Crop seasons are classified based upon sowing time. Normally Kharif season sowing starts from mid-June/July and new crop arrivals begin from Oct/Nov. However, early/late sowing/harvesting also takes place. Rabi season sowing usually takes place mainly from October/November and harvesting starts from March/April. Early/late sowing/harvesting also takes place. Summer crops/Zaid crops are short duration crops mainly sown during January-March and harvested during April-June.
- “Production Year” is considered as “July to June”. With the start of monsoon rains during June/July the sowing of Kharif season starts and they are harvested during Sept/Oct. From Oct onwards the sowing of Rabi season crops starts and harvesting usually takes place during March/April. Thus, a single production cycle completes between July-Sept period covering Kharif, Rabi and Zaid crops. Thus production year remains same for all season crops and the period corresponds to July-Sept.
- “Marketing Year” for each crops starts from beginning of the harvest time i.e. from start of new crop produce arrivals in the market. Thus, for Kharif crops Marketing Year is generally considered as “October to September”,

while for Rabi crops Marketing Year is considered as "April to March". However, Marketing Year may vary slightly for some of the crops depending upon early/late maturity/harvesting.

- For processed commodities, their production starts after the start of new season crop arrivals of their underlying crop.

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

Table - Fundamentals & Balance sheet (quantity)

(In Lakh Tonnes)		
Global Scenario	Previous FY (2021-22)	Current FY (2022-23)(P)
Opening Stocks	NA	NA
Production	NA	NA
Imports	NA	NA
Total Supply	NA	NA
Exports	NA	NA
Domestic Consumption	NA	NA
Closing Stocks	NA	NA

NA: Data is not available in the public domain

(In Lakh Tonnes)		
Indian Scenario	Previous FY (2021-22) (P)	Current FY (2022-23)(P)
Opening Stocks	NA	NA
Production	83.22	91.19
Imports	NA	NA
Total Supply	NA	NA
Exports	NA	NA
Domestic Consumption	NA	NA
Closing Stocks	NA	NA

Note: Production figures are calculated from cotton production figures given by Committee on Cotton Production and Consumption (COCPC) in its meeting held on Nov 15, 2022, P= Provisional

Recovery rate of Cake from Cotton Seed is considered as 84%.

Stocks, imports, exports and consumption figures are not available.

New Season Cotton arrivals begins from October onwards, while that of Cotton Seed Oil Cake starts from November onwards.

(In Lakh Tonnes)					
Rank	Top 10 Major Producing Countries			Top 10 Major Consuming Countries	
	Country	Previous FY (2021-22)	Current FY (2022-23) (P)	Country	Previous FY (2021-22)
	NA			NA	

NA: Data is not available in the public domain.

(In Lakh Tonnes)					
Rank	Top 10 Major Exporting Countries			Top 10 Major Importing Countries	
	Country	Previous FY (2021-22)	Current FY (2022-23) (P)	Country	Previous FY (2021-22)
	NA			NA	

NA: Data is not available in the public domain.

(In Lakh Tonnes)

Top 10 Major producing states in India			
Rank	State	Previous FY (2021-22)	Current FY (2022-23)(P)
	NA	NA	NA

NA: Data is not available in the public domain.

It is a processed commodity. Thus, no such categorization is applicable for this commodity. However, as per market feedback, major production states of Cotton seed oil cake in India are Gujarat, Maharashtra, Telangana, Andhra Pradesh and Punjab.

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

Date	Major Policies governing trade and related changes
	No Cotton seed oil cake specific policies were announced during the review period.

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

Date	Event	Key Details	Key Implications/Impact
	No Cotton seed oil cake specific Geo-political issues were seen during review period		

2. Trading related parameter

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

Month	Year	Symbol	Traded volume (MT)	Annual Traded volume (MT)
Apr	2022	COCUDAKL	1,167,090	10,419,530
May	2022	COCUDAKL	1,224,890	
Jun	2022	COCUDAKL	1,058,560	
Jul	2022	COCUDAKL	1,113,500	
Aug	2022	COCUDAKL	879,460	
Sep	2022	COCUDAKL	510,250	
Oct	2022	COCUDAKL	406,100	
Nov	2022	COCUDAKL	974,620	
Dec	2022	COCUDAKL	887,510	
Jan	2023	COCUDAKL	849,310	
Feb	2023	COCUDAKL	617,320	
Mar	2023	COCUDAKL	730,920	

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

Symbol	Traded volume (MT)	Deliverable supply(MT)	Proportion
COCUDAKL	10,419,530.00	9,118,740	1.14

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

Symbol	Traded volume (MT)	Production(MT)	Proportion
COCUDAKL	10,419,530	9,118,740	1.14

d. Annual average Open interest as proportion of total production

Symbol	Average Open Interest (MT)	Production(MT)	Proportion
COCUDAKL	73,631.55	9,118,740	0.01

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

Symbol	Average Open Interest (MT)	Deliverable supply(MT)	Proportion
COCUDAKL	73,631.55	9,118,740	0.01

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

Month	Years	Symbol	Traded Value (in Cr.)	Annual Value of Trade (in Cr.)
Apr	2022	COCUDAKL	3,536.92	28,689.26
May	2022	COCUDAKL	3,538.79	
Jun	2022	COCUDAKL	2,924.33	
Jul	2022	COCUDAKL	2,926.82	
Aug	2022	COCUDAKL	2,337.02	
Sep	2022	COCUDAKL	1,241.75	
Oct	2022	COCUDAKL	981.64	
Nov	2022	COCUDAKL	2,619.12	
Dec	2022	COCUDAKL	2,454.58	
Jan	2023	COCUDAKL	2,506.22	
Feb	2023	COCUDAKL	1,680.03	
Mar	2023	COCUDAKL	1,942.05	

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

Expiry Month	Years	Symbol	Total Delivery (MT)	Annual quantity (MT)
Apr	2022	COCUDAKL	1,270	52,620
May	2022	COCUDAKL	5,250	
Jun	2022	COCUDAKL	17,120	
Jul	2022	COCUDAKL	8,860	
Aug	2022	COCUDAKL	4,480	
Sep	2022	COCUDAKL	8,680	
Dec	2022	COCUDAKL	500	
Jan	2023	COCUDAKL	800	
Feb	2023	COCUDAKL	4,120	
Mar	2023	COCUDAKL	1,540	

h. Monthly and Annual value of delivery (in Rs. Crores)

Expiry Month	Years	Symbol	Value in Cr	Annual Value of deliveryin Cr.
Apr	2022	COCUDAKL	4.12	153.67
May	2022	COCUDAKL	16.16	
Jun	2022	COCUDAKL	52.29	
Jul	2022	COCUDAKL	24.30	
Aug	2022	COCUDAKL	12.84	
Sep	2022	COCUDAKL	24.12	
Dec	2022	COCUDAKL	1.48	
Jan	2023	COCUDAKL	2.47	
Feb	2023	COCUDAKL	11.74	
Mar	2023	COCUDAKL	4.15	

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

Month	Years	Symbol	Average Open Interest (MT)	Annual Average Interest (OI)

Apr	2022	COCUDAKL	162,287.37	73,631.55
May	2022	COCUDAKL	134,143.81	
Jun	2022	COCUDAKL	107,347.27	
Jul	2022	COCUDAKL	75,845.24	
Aug	2022	COCUDAKL	57,602.50	
Sep	2022	COCUDAKL	46,320.45	
Oct	2022	COCUDAKL	48,332.78	
Nov	2022	COCUDAKL	59,206.19	
Dec	2022	COCUDAKL	53,866.82	
Jan	2023	COCUDAKL	54,982.38	
Feb	2023	COCUDAKL	52,422.00	
Mar	2023	COCUDAKL	45,432.86	

j. Annual average volume to open interest ratio

Symbol	Traded to Open interest
COCUDAKL	56.38%

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

Symbol	Member Count	Client Count
COCUDAKL	129	4,755

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

Annual average of ratio of open interest by FPOs/farmers/Hedge/VCP positions to total open interest

Symbol	VCPs/ Hedger
COCUDAKL	9.13%

Maximum daily value of ratio of open interest by FPOs/farmers/Hedge/VCP positions to total open interest

Symbol	VCPs/ Hedger
COCUDAKL	13.96%

Commodity wise client categorization is as per category details as provided by the members.

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

Commodity	Count
COCUDAKL	70

Commodity wise client categorization is as per category details as provided by the members.

n. Algorithmic trading as percentage of total trading

Commodity	%
COCUDAKL	5.99%

Qty. Involved

o. Delivery defaults

Symbol	Quantity Involved (MT)	Value(Cr)
COCUDAKL	90	0.27

One instance of delivery defaults seen in FY 2022-23

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).

Cotton Seed Oil Cake not traded on any international Exchange.

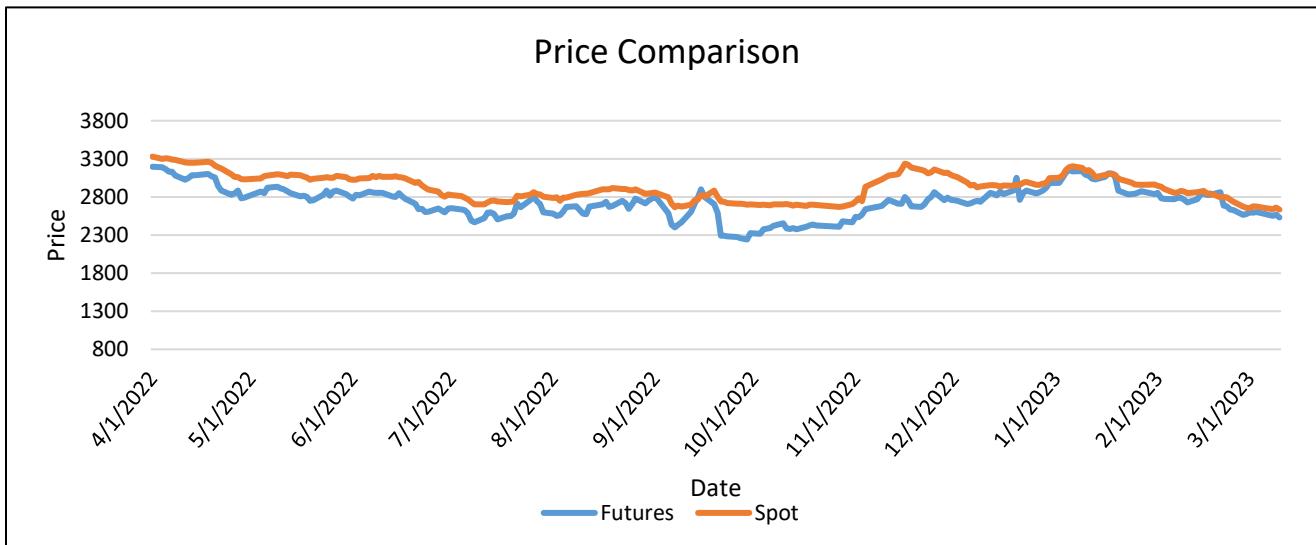
b. Comparison, correlation and ratio of standard deviation of Exchange futures price vis-à-vis international spot price (wherever relevant comparable are available) and domestic spot price (exchange polled price).

Cotton Seed Oil Cake not traded on any international Exchange.

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

Correlation	Futures	Spot	Mandi
<i>Futures</i>	1		-
<i>Spot</i>	0.519923	1	-
<i>Mandi</i>	-	-	-

Standard Deviation	Futures	Spot	Mandi
<i>Futures</i>	1	0.55916	-
<i>Spot</i>	1.788397	1	-
<i>Mandi</i>	-	-	-



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

Cotton Seed Oil Cake not traded on any international Exchange

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.

NA

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

Spot Volatility		
	Month	Value
Maximum	Nov	0.019236
Minimum	Oct	0.004521

Future Price Volatility		
Volatility	Month	Value
Minimum	Sep	0.031846

Maximum	Feb	0.012015
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Value of daily futures price volatility and Spot price volatility (April 2022- March 2023)

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

Contango	2
Backwardation	40

4. Others 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

Basis Volatility	3.434845
Hedging Efficiency	51.19%

The methodology for hedge efficiency ratio calculation is appended as Annexure 1.

a. 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).

State	Major Trading Centre	Exchange Delivery Centre
Gujarat	Kadi	ADC
	Rajkot	
	Surendranagar	
	Viramgam	
	Vijapur	
	Halvad	
	Dhrangadhra	
	Wakaner	
	Tankara	
	Morbi	
	Hadamtala	
	Gondal	NA
	Jasdan	
	Botad	

State	Major Trading Centre	Exchange Delivery Centre
Telegana / Andhra Pradesh	Hyderabad	NA
	Adilabad	

State	Major Trading Centre	Exchange Delivery Centre
Maharashtra	Aurangabad	NA
	Akola	Basis Centre
	Yavatmal	NA

Jalgaon
Beed
Parbhani
Nanded
Jalna
Amravati
Murtizapur
Akot
Khamgaon
Hinganghat

State	Major Trading Centre	Exchange Delivery Centre
Madhya Pradesh	Indore	NA
	Khargone	

State	Major Trading Centre	Exchange Delivery Centre
	Abohar	
	Bathinda	
	Ludhiana	
Punjab and Haryana	Hisar	NA
	Sirsra	

State	Major Trading Centre	Exchange Delivery Centre
	Sri Ganganagar	
	Bhilwara	
	Hanumangarh	
Rajasthan	Suratgarh	NA
	Jaipur	

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

Month	Maharashtra	Rajasthan	Madhya Pradesh	Punjab	Delhi	Gujarat
Apr-22	89,215	43,680	31,993	1,692	16,554	62,967
May-22	76,805	40,287	23,893	1,114	17,755	55,554
Jun-22	54,280	32,475	18,482	798	16,438	54,269
Jul-22	44,132	30,783	7,002	664	14,112	35,924
Aug-22	37,065	25,513	4,117	324	8,145	24,803
Sep-22	30,450	21,080	2,803	230	3,520	23,454
Oct-22	20,626	18,400	2,783	6,839	8,416	20,684
Nov-22	23,105	33,651	4,163	6,881	7,733	23,735

Dec-22	20,274	32,656	4,302	7,165	4,702	22,229
Jan-23	19,556	34,625	4,198	9,436	5,483	20,145
Feb-23	27,766	28,863	6,567	5,736	7,007	19,979
Mar-23	19,623	27,314	5,818	6,608	3,259	16,129

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

Following list of Awareness programme, Stakeholder engagement programme has conducted for FY 2022-23.

Sr. No.	Program Type	Location	Participants
1	Investor Awareness Program	Lucknow	38
2	Investor Awareness Program	Yavatmal	87
3	Investor Awareness Program	Mandsaur, Madhya Pradesh	65
4	Investor Awareness Program	Islampur Walva Block, Dist. Sangli	67
5	Investor Awareness Program	Vita Block, Sangli (Maharashtra)	45
6	Investor Awareness Program	Neemuch, Madhya Pradesh	40
7	Investor Awareness Program	Jath -Khanapur Block, Sangli	45
8	Investor Awareness Program	Hingoli, Maharashtra	40
9	Investor Awareness Program	Nanded, Maharashtra	75
10	Investor Awareness Program	Solapur, Maharashtra	67
11	Investor Awareness Program	Khandwa, Madhya Pradesh	80
12	Investor Awareness Program	Satara, Maharashtra	87
13	Investor Awareness Program	Pune, Maharashtra	120

14	Investor Awareness Program	Seoni, Madhya Pradesh	50
15	Investor Awareness Program	Chhindwara, Madhya Pradesh	60
16	Investor Awareness Program	Wardha , Maharashtra	45
17	Investor Awareness Program	Sehore, Madhya Pradesh	60
18	Investor Awareness Program	Amravati, Maharashtra	170
19	Investor Awareness Program	Washim, Maharashtra	50
20	Investor Awareness Program	Burhanpur	66
21	Investor Awareness Program	Sangli, Maharashtra	54
22	Investor Awareness Program	Rajgarh	50
23	Investor Awareness Program	Kolhapur, Maharashtra	71
24	Investor Awareness Program	Solapur	187
25	Investor Awareness Program	Akola ,Maharashtra	53
26	Investor Awareness Program	Ujjain	50
27	Investor Awareness Program	Agar Malwa	120
28	Investor Awareness Program	Buldhana	70
29	Investor Awareness Program	Kadi	35
30	Investor Awareness Program	Raisen	51
31	Investor Awareness Program	Shivpuri	50
32	Investor Awareness Program	Parbhani	84
33	Investor Awareness Program	Beed	92
34	Investor Awareness Program	Karanja, Washim	120
35	Investor Awareness Program	Betul	35
36	Investor Awareness Program	Gondia,Maharashtra	49
37	Investor Awareness Program	Kolkata	35

38	Investor Awareness Program	Surat	18
39	Investor Awareness Program	Guna, Madhya Pradesh	30
40	Investor Awareness Program	Anjar, Lutch, Gujarat	38
41	Investor Awareness Program	Raipur, Chhattisgarh	112
42	Investor Awareness Program	Patan, Gujarat	104
43	Investor Awareness Program	Nashik	200
44	Investor Awareness Program	Udaipur	150
45	Investor Awareness Program	Rajkot	100
46	Investor Awareness Program	Hissar	100
47	Investor Awareness Program	Nagpur, Maharashtra	120
48	Investor Awareness Program	Raipur	100
49	Investor Awareness Program	Gwalior, Madhya Pradesh	78
50	Investor Awareness Program	Bhopal, MP	54
51	Investor Awareness Program	Indore, Madhya Pradesh	47
52	Investor Awareness Program	Siliguri, West Bengal	39
53	Investor Awareness Program	Alipurduar, West Bengal	31
54	Investor Awareness Program	Meerut, Uttar Pradesh	30
55	Investor Awareness Program	Bhopal, Madhya Pradesh	44
56	Investor Awareness Program	Indore, Madhya Pradesh	80
57	Investor Awareness Program	Chennai, Tamil Nadu	24
58	Investor Awareness Program	Kanpur, Uttar Pradesh	60
59	Investor Awareness Program	Chindwara, MP	50

60	Investor Awareness Program	Seoni , MP	40
61	Investor Awareness Program	Kolkata	25
62	Investor Awareness Program	Raipur, Chattisgarh	136
63	Investor Awareness Program	Lucknow	177
64	Investor Awareness Program	Rourkela	65
65	Investor Awareness Program	Muzaffarnagar	70
66	Investor Awareness Program	Kochi	86
67	Investor Awareness Program	Bhilai	70
68	Investor Awareness Program	Thalamadla	80
69	Investor Awareness Program	Kolkata	45
70	Investor Awareness Program	Online	30
71	Investor Awareness Program	Online	18
72	Investor Awareness Program	Online	23
73	Investor Awareness Program	Odisha	9
74	Investor Awareness Program	Odisha	15
75	Investor Awareness Program	Karnataka	5
76	Investor Awareness Program	Bihar	18
77	Investor Awareness Program	West Bengal	6
78	Investor Awareness Program	Andhra Pradesh	29
79	Investor Awareness Program	Online	11
80	Investor Awareness Program	Online	7
81	Investor Awareness Program	Online	21
82	Investor Awareness Program	Online	6
83	Investor Awareness Program	Online	9
84	Investor Awareness Program	Online	14
85	Investor Awareness Program	Online	82
86	Investor Awareness Program	Online	28
87	Investor Awareness Program	Online	25
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102	Investor Awareness Program	Online	35
103	Investor Awareness Program	Online	10
104	Investor Awareness Program	Online	30
105	Investor Awareness Program	Online	12
106	Investor Awareness Program	Online	6
107	Investor Awareness Program	Online	7
108	Investor Awareness Program	Online	20
109	Investor Awareness Program	Online	50
110	Investor Awareness Program	Online	30
111	Investor Awareness Program	Online	13
112	Investor Awareness Program	Online	10
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124	Investor Awareness Program	Online	9
125	Investor Awareness Program	Online	14
126	Investor Awareness Program	Online	16
127	Investor Awareness Program	Online	11
128	Investor Awareness Program	Online	8
129	Investor Awareness Program	Online	8
130	Investor Awareness Program	Online	13
131	Investor Awareness Program	Online	15
132	Investor Awareness Program	Online	25
133	Investor Awareness Program	Online	25
134	Investor Awareness Program	Online	26
135	Investor Awareness Program	Online	18
136	Investor Awareness Program	Online	52
137	Investor Awareness Program	Online	16

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

- Creating an awareness about the Hedge policy to bona fide hedger
- Online webinar conducted to increase hedging participation from the value chain participants.
- One to one meetings with market participants create awareness about new development / newinitiatives at exchange level.

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

NA

ANNEXURE I

Qualitative and quantitative measure for Hedge effectiveness ratio

Hedging Efficiency Methodology

Regression analysis is carried out between near month futures returns and NCDEX polled spot pricesreturns of the FY2022-23.

The R-Square value of the Regression analysis represents the Hedging Efficiency".

Note: -

Date for which spot prices were not available is not used for analysis.

Weekly returns are used for performing Regression Analysis.

The method used to calculate Hedging Efficiency does not consider liquidity risk because of this reasonilliquid commodities can have high hedging efficiency.

References:

Ghosh, Ph.D, Nilanjan & Dey, Debojyoti & Moulvi, Nazir & Jain, Niteen & Sinha, Neha & Rachuri, Sarika.(2013). Hedging Efficiency—Measures and Empirical Study.