

## Parameters for Performance Review of Commodity

### JEERA

#### 1. Background

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

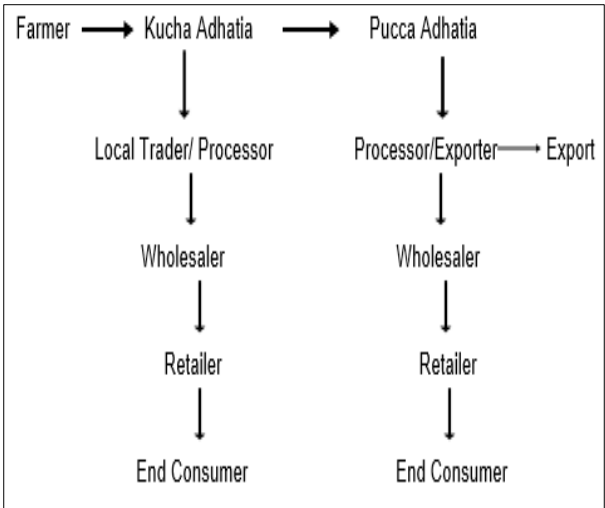
Cumin seed commonly known as Jeera is the dried, white fruit with greyish brown colour of a small slender annual herb. It had a major role as a flavoring, spice and medicinal uses throughout history. In the western countries, it is used mainly in veterinary medicine, as a carminative, but it remains a traditional herbal remedy in the East. Besides being used in Ayurvedic medicines, cumin is also used as a stimulant, carminative, stomachic and astringent. Cumin seed oil is used in perfumery and for flavouring liqueurs and cordials.



Generally, raw Jeera is being processed by machine and then the Machine cleaned material is generally sold to spices processing units (Masala Manufacturers) and retail customers.

In India, Jeera is grown as a Rabi crop. Sowing is done during October to December while harvesting starts from February onwards. It requires less water and more cold for its better growth with ideal temperature of 25 to 30 degree. Jeera crop is highly sensitive to rain/ high humidity and if rain occurs during harvesting time, quality of the Jeera gets badly affected (it turns black). The major producing states are Gujarat and Rajasthan in India.

Crop Cycle (India)											
Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Sowing			Growing Period		Harvesting						

Life Cycle: Value Chain of the Commodity	Major Varieties /Grade												
 <pre> graph TD     Farmer --&gt; KuchaAdhatia[Kucha Adhatia]     Farmer --&gt; PuccaAdhatia[Pucca Adhatia]     KuchaAdhatia --&gt; LocalTrader[Local Trader/ Processor]     PuccaAdhatia --&gt; Processor[Processor/Exporter]     LocalTrader --&gt; Wholesaler1[Wholesaler]     Processor --&gt; Wholesaler2[Wholesaler]     Wholesaler1 --&gt; Retailer1[Retailer]     Wholesaler2 --&gt; Retailer2[Retailer]     Retailer1 --&gt; EndConsumer1[End Consumer]     Retailer2 --&gt; EndConsumer2[End Consumer]     Processor --&gt; Export[Export] </pre>	<p><b>Major Varieties</b></p> <p>Besides the two main types of cumin seeds, i.e., white and black cumin seeds, many improved varieties like S-404, MC-43 Gujarat Cumin-1(GC-1), GC-2, GC-3, RS-1, UC-198, RZ-19, etc. are available in India.</p> <p><b>NCDEX: Quality Parameters</b></p> <table> <tr> <td>Foreign Matter*</td><td>1.0 % Max</td></tr> <tr> <td>Seeds with Stalks</td><td>8.0 % Max</td></tr> <tr> <td>Damaged, Discolored, Shriveled and Immature seeds</td><td>4.5% Max</td></tr> <tr> <td>Insect damaged matter</td><td>Should not be &gt; 0.5%</td></tr> <tr> <td>Test Weight (on count basis)</td><td>Max 300 seeds / per gram</td></tr> <tr> <td>Moisture</td><td>8% Basis, 9.5% Max</td></tr> </table>	Foreign Matter*	1.0 % Max	Seeds with Stalks	8.0 % Max	Damaged, Discolored, Shriveled and Immature seeds	4.5% Max	Insect damaged matter	Should not be > 0.5%	Test Weight (on count basis)	Max 300 seeds / per gram	Moisture	8% Basis, 9.5% Max
Foreign Matter*	1.0 % Max												
Seeds with Stalks	8.0 % Max												
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Test Weight (on count basis)	Max 300 seeds / per gram												
Moisture	8% Basis, 9.5% Max												

		*Foreign matter includes anything other than Jeera seeds e.g. sand, silica, pebbles and other edible/non edible seeds

**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 seed 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
<b>Reference Year</b>			
<b>Financial Year 2022-23 (Apr-Mar)</b>			
<b>Corresponding Years</b>			
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	2.35	0.84
Total Supply	NA	NA
Exports	2.80	1.97
Domestic Consumption	NA	NA
Closing Stocks	NA	NA

Source: UN Comtrade; HS codes used are 090931 and 090932;

NA: Data is not available in the public domain; P: Provisional;

\*Data is not available as per financial year. It is provided as per Calendar Year (CY) (Jan-Dec);

(In Lakh Tonnes)		
Indian Scenario	Previous FY (2021-22)	Current FY (2022-23)
Opening Stocks	0.78	1.26
Production	4.50	3.25*
Imports	0.05	0.02
Total Supply	5.33	4.53
Exports	2.17	1.67
Domestic Consumption	1.90	1.90
Closing Stocks	1.26	0.86

Source:

Production: Market Estimates

\*As per Spice Board of India the Jeera Production is 7.26 Lakh tonnes.

Import/Export: Ministry of Commerce (HS codes 090931 and 090932);

For FY 2022-23, import and export data is available only for period of Apr 2022 to Feb 2023;

Please refer to Table entitled “Reference Years for Commodities” to know type of years corresponding to financial year.

(In Lakh Tonnes)						
Rank	Top 10 Major Producing Countries			Top 10 Major Consuming Countries		
	Country	Previous FY	Current FY	Country	Previous FY	Current FY
	NA			NA		

Data is not available in public domain. India is the largest producer of Jeera in the world, which accounts for 80-85% of the world production. The other major producers are Syria and Turkey, which together accounts for rest of the production.

(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)*	Current FY (2022-23)* (P)
1	India	2.42	1.77	China	0.74	0.02
2	Turkey	0.10	0.07	USA	0.19	0.15
3	Egypt	0.02	0.02	Turkey	0.12	0.08
4	Spain	0.02	0.02	Egypt	0.08	0.03
5	Netherlands	0.02	0.02	United Kingdom	0.06	0.05
6	Germany	0.01	0.01	Pakistan	0.05	0.03
7	USA	0.01	0.01	India	0.05	0.02
8	Czech Rep.	0.01	0.02	Malaysia	0.04	NA
9	Lithuania	0.01	0.01	Germany	0.03	0.01
10	United Kingdom	0.00	0.00	Japan	0.03	0.03
	Others	0.19	0.03	Others	1.64	0.38
	World	2.80	1.97	World	2.35	0.84

Source: UN Comtrade; HS codes used are 090931 and 090932; P: Provisional

\*Data is not available as per financial year. It is provided as per Calendar Year (CY) (Jan-Dec);

Countries are arranged in descending order based on the data in the Current Year;

(In Lakh Tonnes)			
Top 10 Major producing states in India			
Rank	States	Previous FY (2021-22)	Current FY (2022-23)
1	Gujarat	4.75	4.20
2	Rajasthan	3.19	3.04
	Others**	0.02	0.02
	Total	7.95	7.26

Source: Spices Board of India;

\*\* : The share of other states (except for top 2 states) in total domestic production is negligible. Gujarat and Rajasthan together accounts for more than 90% of the domestic production.

States are arranged in descending order based on the data in the Current Year;

### c. Major changes in the policies governing trade in the spot markets of the commodity (FY 2022-23)

Date	Major Policies Governing Trade and related Changes
NA	NA

**d. Geo political issues in the commodity and its impact on Indian scenario (FY 2022-23)**

Date	Event	Key Details	Key Implications/Impact
05-Nov-22	China imposed lockdown	China indicated no relaxation of restrictions to 'zero-Covid' policy. Scattered outbreaks across the country continued to prompt travel restrictions and lockdowns	Agriculture commodity export to China slowed down due to prevailing lockdowns

## 2. Trading related Parameters

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

Monthly Traded Volume		
Month	Year	Traded Volume (MT)
April	2022	-
May	2022	-
June	2022	-
July	2022	3
August	2022	3
September	2022	-
October	2022	-
November	2022	-
December	2022	-
January	2023	-
February	2023	-
March	2023	-
Yearly Traded Volume		6

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

Traded volume (MT)	Deliverable supply( MT)	Proportion
6	727,367	0.00

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

Traded volume (MT)	Production( MT)	Proportion
6	725,651	0.00

### d. Annual average Open interest as proportion of total production

Avg Open Int (MT)	Production( MT)	Proportion
0.16	725,651	0.00

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

Avg Open Int (MT)	Deliverable supply( MT)	Proportion
0.16	727,367	0.00

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

Monthly Traded Value		
Month	Year	Traded Value(in Cr.)
April	2022	-
May	2022	-
June	2022	-
July	2022	0.001
August	2022	0.001
September	2022	-
October	2022	-
November	2022	-
December	2022	-
January	2023	-
February	2023	-
March	2023	-
Yearly Value of Trade		0.003

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

Monthly Delivery Quantity		
Month	Year	Total Delivery (MT)
April	2022	0
May	2022	0
June	2022	0
July	2022	0
August	2022	0
September	2022	0
October	2022	0

November	2022	0
December	2022	0
January	2023	0
March	2023	0
<b>Yearly Delivery Quantity</b>		<b>0</b>

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

<b>Monthly Delivery Value</b>		
<b>Month</b>	<b>Year</b>	<b>Value in Cr</b>
April	2022	0
May	2022	0
June	2022	0
July	2022	0
August	2022	0
September	2022	0
October	2022	0
November	2022	0
December	2022	0
January	2023	0
March	2023	0
<b>Yearly Delivery Value</b>		<b>0</b>

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

<b>Month</b>	<b>Year</b>	<b>Avg Open Int (MT)</b>
April	2022	-
May	2022	-
June	2022	-
July	2022	1.57
August	2022	0.30
September	2022	-
October	2022	-



November	2022	-
December	2022	-
January	2023	-
February	2023	-
March	2023	-
<b>Yearly Average OI</b>		<b>0.16</b>

**j. Annual average volume to open interest ratio**

Volume to OI Ratio
0.15%

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

Member Count	Client Count
2	2

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

	VCPs/ Hedger
Annual Average	N.A.
Maximum Daily value*	0%

***\*It is calculated on the day when commodity has highest open interest during the year.  
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
JEERAUNJHA	-

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

**n. Algorithmic trading as percentage of total trading**

Commodity	%
JEERAUNJHA	50%

**o. Delivery defaults**

No. of Instances	0
Quantity Involved (MT)	0
Value Involved (Cr)	0

### 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).

NA

- 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).

NA

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

<b>Correlation</b>			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1	0.681532	0.25401
<i>Spot</i>	0.681532	1	0.521938
<i>Mandi</i>	0.25401	0.521938	1

<b>Standard Deviation</b>			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1	0.754429	0.825423
<i>Spot</i>	1.325506	1	1.094103
<i>Mandi</i>	1.211501	0.913991	1

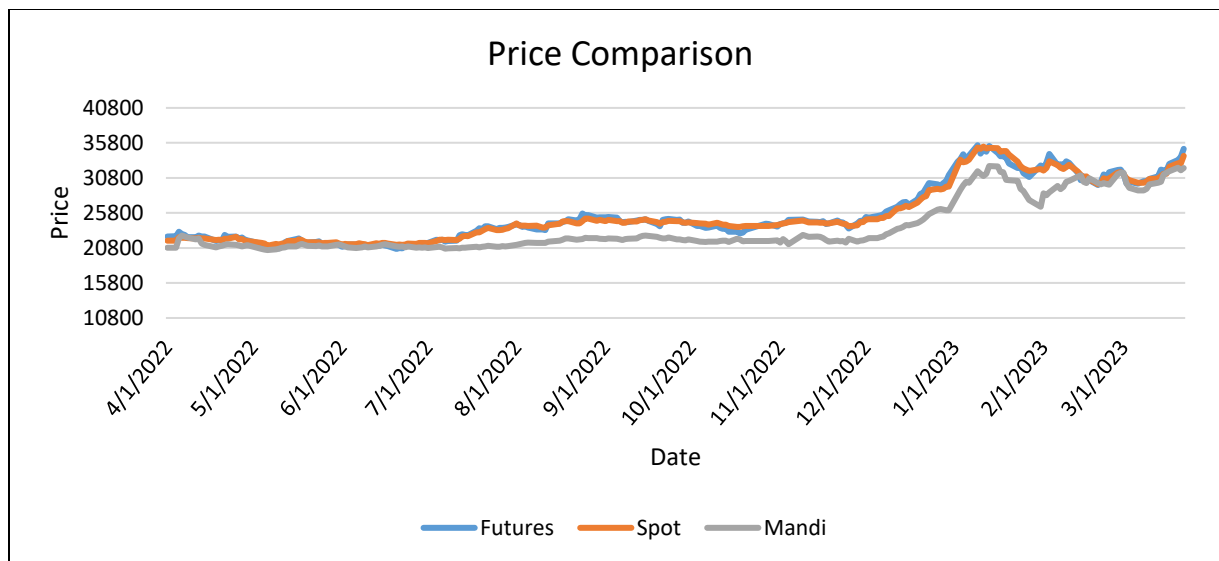
- d. Correlation between international futures & international spot prices along with ratio of standard deviation (wherever relevant comparable are available).

NA

- 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.

<b>Correlation</b>			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1	0.681532	0.25401
<i>Spot</i>	0.681532	1	0.521938
<i>Mandi</i>	0.25401	0.521938	1

<b>Standard Deviation</b>			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1	0.754429	0.825423
<i>Spot</i>	1.325506	1	1.094103
<i>Mandi</i>	1.211501	0.913991	1



Source: Spot and Future Prices: NCDEX, Mandi Prices: Agmarknet

- f. Maximum & Minimum value of daily futures price volatility and spot price volatility along with disclosure of methodology adopted for computing the volatility. (**Volatility calculated by Standard Deviation of daily returns for the period from 1 April 2022 to 31 March 2023**)

	Futures Price		Spot Price	
Volatility	Month	Value	Month	Value
Max	Jan	0.028932	Jan	0.027604
Min	Jun	0.008238	Oct	0.004647

- 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	12
backwardation	0

#### 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

<b>Basis Volatility</b>	27.63538189
<b>Hedge Efficiency</b>	78.93%

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

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

State	Major Physical Markets	Availability of NCDEX Delivery center
Gujarat	Unjha	Basis
	Rajkot	
	Radhanpur	
	Tharad	
	Jamjodhpur	
	Morbi	
Rajasthan	Jodhpur	ADC
	Merta City (Nagaur)	
	Nagaur	
	AnandpurKalu	

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

**Note – The OI for each month is classified based on the Member level. The Average OI is on gross level (Long OI + Short OI)**

State	GUJARAT (in MT)	RAJASTHAN (in MT)
Apr-22	0	0
May-22	0	0
Jun-22	0	0
Jul-22	0	0
Aug-22	0	0
Sep-22	0	0
Oct-22	0	0
Nov-22	0	0
Dec-22	0	0
Jan-23	0	0
Feb-23	0	0
Mar-23	0	0

"Note - The OI for CP (Custodian Participant) is not mapped to any State/ location and hence not considered in the above data."

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

Following is the list of Awareness program, Stakeholder engagement program exchange has conducted for FY 2022-23.

<b>Sr. No.</b>	<b>Program Type</b>	<b>Location</b>	<b>Participants</b>
1	Investor Awareness Program	Bhiloda	51
2	Investor Awareness Program	Dhangadhra, Surendranagar Gujarat	60
3	Investor Awareness Program	Radhanpur, Gujarat	52
4	Investor Awareness Program	Motipur, Himmatnagar Gujarat	30
5	Investor Awareness Program	Motipur, Himmatnagar Gujarat	26
6	Investor Awareness Program	Unjha	15
7	Investor Awareness Program	Dantiwara, Rajasthan	85
8	Investor Awareness Program	Pali, Rajasthan	58
9	Investor Awareness Program	Unjha, Gujarat	33
10	Investor Awareness Program	Ambaji, Gujarat	50
11	Investor Awareness Program	Patan, Gujarat	35
12	Investor Awareness Program	Patan, Gujarat	40
13	Investor Awareness Program	Botad, Gujarat	40
14	Investor Awareness Program	Bhuj, Gujarat	49
15	Investor Awareness Program	Bhiloda, Khalwad	100
16	Investor Awareness Program	Shamla Ji, Village- Abhapur	100
17	Investor Awareness Program	Gandhinagar	50
18	Investor Awareness Program	Sami, Patan	29
19	Investor Awareness Program	Dasada, Surendranagar	50
20	Investor Awareness Program	Vadodara	50
21	Investor Awareness Program	Surendranagar	49
22	Investor Awareness Program	Ahmedabad	15
23	Investor Awareness Program	Ahmedabad, Gujarat	32
24	Investor Awareness Program	Rajkot, Gujarat	55
25	Investor Awareness Program	Unjha	60
26	Investor Awareness Program	Kolkata	35
27	Investor Awareness Program	Surat	18

28	Investor Awareness Program	Guna, Madhya Pradesh	30
29	Investor Awareness Program	Anjar, Lutch, Gujarat	38
30	Investor Awareness Program	Raipur, Chhattisgarh	112
31	Investor Awareness Program	Patan, Gujarat	104
32	Investor Awareness Program	Nashik	200
33	Investor Awareness Program	Udaipur	150
34	Investor Awareness Program	Rajkot	100
35	Investor Awareness Program	Hissar	100
36	Investor Awareness Program	Nagpur, Maharashtra	120
37	Investor Awareness Program	Raipur	100
38	Investor Awareness Program	Gwalior, Madhya Pradesh	78
39	Investor Awareness Program	Bhopal , MP	54
40	Investor Awareness Program	Indore, Madhya Pradesh	47
41	Investor Awareness Program	Siliguri, West Bengal	39
42	Investor Awareness Program	Alipurduar, West Bengal	31
43	Investor Awareness Program	Meerut, Uttar Pradesh	30
44	Investor Awareness Program	Bhopal, Madhya Pradesh	44
45	Investor Awareness Program	Indore, Madhya Pradesh	80
46	Investor Awareness Program	Chennai, Tamil Nadu	24
47	Investor Awareness Program	Kanpur, Uttar Pradesh	60
48	Investor Awareness Program	Chindwara, MP	50
49	Investor Awareness Program	Seoni , MP	40
50	Investor Awareness Program	Kolkata	25
51	Investor Awareness Program	Raipur, Chattisgarh	136
52	Investor Awareness Program	Lucknow	177
53	Investor Awareness Program	Rourkela	65
54	Investor Awareness Program	Muzaffarnagar	70
55	Investor Awareness Program	Kochi	86
56	Investor Awareness Program	Bhilai	70
57	Investor Awareness Program	Thalamadla	80
58	Investor Awareness Program	Kolkata	45
59	Investor Awareness Program	Online	30
60	Investor Awareness Program	Online	18
61	Investor Awareness Program	Online	23
62	Investor Awareness Program	Odisha	9

63	Investor Awareness Program	Odisha	15
64	Investor Awareness Program	Karnataka	5
65	Investor Awareness Program	Bihar	18
66	Investor Awareness Program	West Bengal	6
67	Investor Awareness Program	Andhra Pradesh	29
68	Investor Awareness Program	Online	11
69	Investor Awareness Program	Online	7
70	Investor Awareness Program	Online	21
71	Investor Awareness Program	Online	6
72	Investor Awareness Program	Online	9
73	Investor Awareness Program	Online	14
74	Investor Awareness Program	Online	82
75	Investor Awareness Program	Online	28
76	Investor Awareness Program	Online	25
77	Investor Awareness Program	Online	50
78	Investor Awareness Program	Online	30
79	Investor Awareness Program	Online	25
80	Investor Awareness Program	Online	5
81	Investor Awareness Program	Online	10
82	Investor Awareness Program	Online	7
83	Investor Awareness Program	Online	13
84	Investor Awareness Program	Online	16
85	Investor Awareness Program	Online	23
86	Investor Awareness Program	Online	53
87	Investor Awareness Program	Online	17
88	Investor Awareness Program	Online	30
89	Investor Awareness Program	Online	15
90	Investor Awareness Program	Online	25
91	Investor Awareness Program	Online	35
92	Investor Awareness Program	Online	10
93	Investor Awareness Program	Online	30
94	Investor Awareness Program	Online	12
95	Investor Awareness Program	Online	6
96	Investor Awareness Program	Online	7
97	Investor Awareness Program	Online	20
98	Investor Awareness Program	Online	50
99	Investor Awareness Program	Online	30
100	Investor Awareness Program	Online	13
101	Investor Awareness Program	Online	10
102	Investor Awareness Program	Online	6
103	Investor Awareness Program	Online	6
104	Investor Awareness Program	Online	8
105	Investor Awareness Program	Online	13

106	Investor Awareness Program	Online	6
107	Investor Awareness Program	Online	25
108	Investor Awareness Program	Online	8
109	Investor Awareness Program	Online	14
110	Investor Awareness Program	Online	11
111	Investor Awareness Program	Online	10
112	Investor Awareness Program	Online	6
113	Investor Awareness Program	Online	9
114	Investor Awareness Program	Online	14
115	Investor Awareness Program	Online	16
116	Investor Awareness Program	Online	11
117	Investor Awareness Program	Online	8
118	Investor Awareness Program	Online	8
119	Investor Awareness Program	Online	13
120	Investor Awareness Program	Online	15
121	Investor Awareness Program	Online	25
122	Investor Awareness Program	Online	25
123	Investor Awareness Program	Online	26
124	Investor Awareness Program	Online	18
125	Investor Awareness Program	Online	52
126	Investor Awareness Program	Online	16

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

- Creating awareness about hedging and targeting the major Masala processors/ Traders/ Stockiest
- Awareness Programme in major trading centres as well as remote location
- One to one meeting with market participants and hedgers

**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 prices returns 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 reason illiquid 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.