

Parameters for Performance Review of Commodity

GUAR GUM

1. Background

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

Guar gum is a processed product derived from Guar seed which is a legume crop. Guar processing is usually a two-stage process. The first stage of processing involves conversion of Guar seed into Guar gum (Splits). Guar meal (Churi and Korma) is produced as a by-product during this stage. The second stage of processing involves the conversion of Guar gum (Splits) into Guar gum powder (Guar gum treated and pulverized). Scientifically, Guar seed comprises three parts: the seed coat (14-17%), the endosperm (35-42%), and the germ (43-47%). It is from the endosperm that guar gum is derived, which is the prime marketable product of the

plant. Guar Gum is a natural high molecular weight polysaccharide composed of galactose and mannose units combined through glycosidic linkages.



Guar gum has wide ranged industrial applications; the major one being that in oil drilling industry. Guar Gum is used as a controlling agent in oil wells to facilitate drilling and prevent fluid loss. Guar gum is the source of a natural hydrocolloid, which is cold- water soluble and forms a thick solution at low concentrations. Guar gum is used as a thickening and binding agent in the food, textile, finishing, printing, paper, pharmaceutical and oil industry. Highly refined guar gum is used in the food industry as a stabilizer in ice creams, as a meat binder and a stabilizer for cheeses, instant puddings and whipped cream substitutes. Guar gum is used in industrial applications including cloth and paper manufacture, oil well drilling, explosives, ore flotation, and many other applications.

Crop Cycle:

Guar gum is a processed commodity. The crop cycle is not applicable for it.

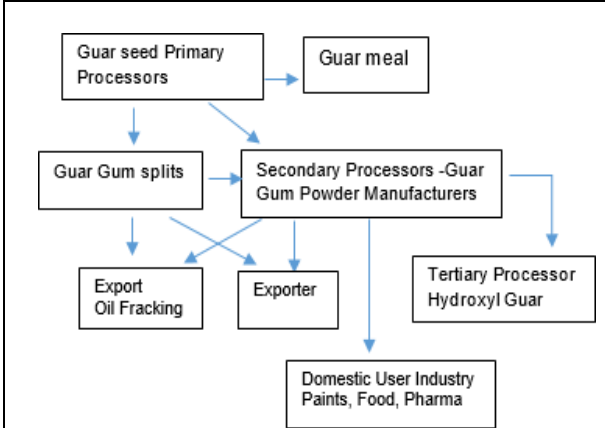
Life Cycle: Value Chain of the Commodity	Major Varieties / Grades																
 <pre> graph TD A[Guar seed Primary Processors] --> B[Guar meal] A --> C[Guar Gum splits] C --> D[Secondary Processors - Guar Gum Powder Manufacturers] D --> E[Export Oil Fracking] D --> F[Exporter] D --> G[Tertiary Processor Hydroxyl Guar] F --> H[Domestic User Industry Paints, Food, Pharma] </pre>	<p>Major Varieties: Not applicable as it is a processed commodity.</p> <p>NCDEX: Important Quality Parameters</p> <table border="1"> <tr> <td>Residue insoluble in Acid</td><td>3.00%(Max)</td></tr> <tr> <td>Protein</td><td>5.00% (Max)</td></tr> <tr> <td>Undehusked Splits</td><td>10.00%</td></tr> <tr> <td>Black, dark red and brown coloured splits</td><td>1.00% (Max)</td></tr> <tr> <td>Through 14" mesh</td><td>3.00% (Max)</td></tr> <tr> <td>Through 20" mesh</td><td>0.10%(Basis)</td></tr> <tr> <td>Moisture</td><td>8%</td></tr> <tr> <td>Foreign Particles (all non-gum particles)</td><td>0.30%(Basis)</td></tr> </table>	Residue insoluble in Acid	3.00%(Max)	Protein	5.00% (Max)	Undehusked Splits	10.00%	Black, dark red and brown coloured splits	1.00% (Max)	Through 14" mesh	3.00% (Max)	Through 20" mesh	0.10%(Basis)	Moisture	8%	Foreign Particles (all non-gum particles)	0.30%(Basis)
Residue insoluble in Acid	3.00%(Max)																
Protein	5.00% (Max)																
Undehusked Splits	10.00%																
Black, dark red and brown coloured splits	1.00% (Max)																
Through 14" mesh	3.00% (Max)																
Through 20" mesh	0.10%(Basis)																
Moisture	8%																
Foreign Particles (all non-gum particles)	0.30%(Basis)																

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
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.

b. For processed commodities, their production starts after the start of new season crop arrivals of their underlying crop. 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 MT)		
Global Scenario	Previous FY (2021-22)*	Current FY (2022-23)*
Opening Stocks	NA	NA
Production	NA	NA
Imports	2.48	NA
Total Supply	NA	NA
Exports	3.31	NA
Domestic Consumption	NA	NA
Closing Stocks	NA	NA

Source: UN Comtrade; HS codes used is 130232 (It is inclusive of Guar gum as well as other derivatives) NA: Data is not available in the public domain;

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

(In Lakh MT)		
Indian Scenario	Previous FY (2021-22)	Current FY (2022-23)
Opening Stocks	NA	NA
Production	3.36	5.94^
Imports	NA	NA
Total Supply	NA	NA
Exports	3.81	4.40
Domestic Consumption	4.23	4.89
Closing Stocks	NA	NA

Source: Guar Gum Production is back calculated based on Guar seed production considering Guar gum recovery is 30% of the Seed.

^: Data is Provisional and subject to further revision.

Total Consumption figures for Guar Gum are back calculated assuming that Guar Gum Exports (Refined Split + Treated and Pulverized) are 90% of total domestic consumption.

India does not import Guar Gum. For 2021-22, export data is for period Apr 2021 to March 2022. For 2022-23, export data is for period April 2022 to February 2023.

Export: Ministry of Commerce; HS codes used are Guar gum refined split (HS code: 13023220 and 7139010), Treated & pulverized Guar gum (HS code: 13023230)

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

NA: Data is not available in public domain.

As per market feedback, India is the largest producer of Guar gum in the world, which accounts for 80-85% of the world production followed by Pakistan.

(In Lakh Tonnes)						
Rank	Top 10 Major Exporting Countries			Top 10 Major Importing Countries		
	Country	Previous FY (2021-22)	Current FY (2022-23)	Country	Previous FY (2021-22)	Current FY (2022-23)
1	India	2.41	NA	Germany	0.32	0.37
2	Pakistan	0.30	NA	China	0.27	0.32
3	Spain	0.11	NA	Canada	0.07	0.12

4	Italy	0.11	NA	Australia	0.07	0.11
5	USA	0.09	NA	Italy	0.07	0.08
6	Germany	0.08	NA	United Kingdom	0.10	0.08
7	Netherlands	0.06	NA	France	0.05	0.08
8	China	0.03	NA	Japan	0.06	0.07
9	Switzerland	0.03	NA	Netherlands	0.09	0.05
10	Denmark	0.02	NA	Denmark	0.05	0.05
	Others	0.08	NA	Others	1.33	0.34
	World	3.31	NA	World	2.48	1.66

Source: UN Comtrade; HS codes used is 130232 (It is inclusive of Guar gum as well as other derivatives).NA: Data is not available in the public domain

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 MT)

Top 10 Major producing states in India			
Rank	States	Previous FY	Current FY
	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.

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
-	No Guar gum specific policy change was there during FY 2022-23

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

Date	Event	Key Details	Key Implications/Impact
	No Guar gum specific geo-political issue was there during FY 2022-23	NA	NA

NA: Not Applicable

2. Trading related parameter

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

Month	Year	Symbol	Traded volume (MT)
Apr	2022	GUARGUM5	401,030
May	2022	GUARGUM5	312,960
June	2022	GUARGUM5	341,400
July	2022	GUARGUM5	345,070
August	2022	GUARGUM5	290,090
September	2022	GUARGUM5	370,920
October	2022	GUARGUM5	217,400
November	2022	GUARGUM5	523,920
December	2022	GUARGUM5	422,660
January	2023	GUARGUM5	441,575
February	2023	GUARGUM5	333,350
March	2023	GUARGUM5	310,045
Annual Traded Volume (MT) (April'22 to March'23)			4,310,420

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

Symbol	Traded Volume (MT)	Deliverable Supply(MT)	Proportion
GUARGUM5	4,310,420.00	594,000	7.26

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

Symbol	Traded volume (MT)	Production(MT)	Proportion
GUARGUM5	4,310,420	594,000	7.26

d. Annual average Open interest as proportion of total production

Symbol	Average Open Interest (MT)	Production(MT)	Proportion
GUARGUM5	48,488.21	594,000	0.08

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

Symbol	Average Open Interest (MT)	Deliverable supply(MT)	Proportion
GUARGUM5	48,488.21	594,000	0.08

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

Month	Year	Symbol	Traded value (in Rs. Crores)
Apr	2022	GUARGUM5	5,108
May	2022	GUARGUM5	3,669
June	2022	GUARGUM5	3,608
July	2022	GUARGUM5	3,307
August	2022	GUARGUM5	2,537
September	2022	GUARGUM5	3,622
October	2022	GUARGUM5	2,005
November	2022	GUARGUM5	6,045
December	2022	GUARGUM5	5,353
January	2023	GUARGUM5	5,788
February	2023	GUARGUM5	4,122
March	2023	GUARGUM5	3,678
Annual Traded Volume (in Rs Crores) (April'22 to March'23)			48,841

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

Expiry Month	Year	Symbol	Total Delivery (in MT)
April	2022	GUARGUM5	2,160
May	2022	GUARGUM5	1,110
June	2022	GUARGUM5	1,010
July	2022	GUARGUM5	1,665
August	2022	GUARGUM5	695
September	2022	GUARGUM5	1,065
October	2022	GUARGUM5	830
November	2022	GUARGUM5	1,005
December	2022	GUARGUM5	1,280
January	2023	GUARGUM5	685
February	2023	GUARGUM5	120
March	2023	GUARGUM5	805
Annual value of delivery (in MT) (April'22 to March'23) (April'22 to March'23)			12,430

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

Expiry Month	Year	Symbol	Total Delivery Value (in Cr)
April	2022	GUARGUM5	27.03
May	2022	GUARGUM5	13.07
June	2022	GUARGUM5	10.90
July	2022	GUARGUM5	16.46
August	2022	GUARGUM5	5.98
September	2022	GUARGUM5	10.61
October	2022	GUARGUM5	7.67
November	2022	GUARGUM5	11.56
December	2022	GUARGUM5	15.74
January	2023	GUARGUM5	9.48
February	2023	GUARGUM5	1.50
March	2023	GUARGUM5	9.36
Annual value of delivery (in Crores) (April'22 to March'23)			139.36

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

Month	Year	Symbol	Average Open Interest (MT)
Apr	2022	GUARGUM5	61,492
May	2022	GUARGUM5	55,657
June	2022	GUARGUM5	50,502
July	2022	GUARGUM5	47,104
August	2022	GUARGUM5	43,023
September	2022	GUARGUM5	41,240
October	2022	GUARGUM5	42,738
November	2022	GUARGUM5	47,452
December	2022	GUARGUM5	47,583
January	2023	GUARGUM5	51,876
February	2023	GUARGUM5	50,560
March	2023	GUARGUM5	50,106
Annual Average OI (MT) (April'22 to March'23)			48,488

j. Annual average volume to open interest ratio

35.42%

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

Symbol	Member Count	Client Count
GUARGUM5	131	2,483

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

Annual Average	9.99%
Maximum Daily Value	10.63%

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

Commodity	Count
GUARGUM5	29

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

n. Algorithmic trading as percentage of total trading

Commodity	%
GUARGUM5	9.33%

o. Delivery defaults

Number of instances	1
Quantity involved	5 MT
Value involved	0.06 Crs

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.

Correlation			
	Futures	Spot	Mandi
Futures	1		-
Spot	0.723837	1	-
Mandi	-	-	-

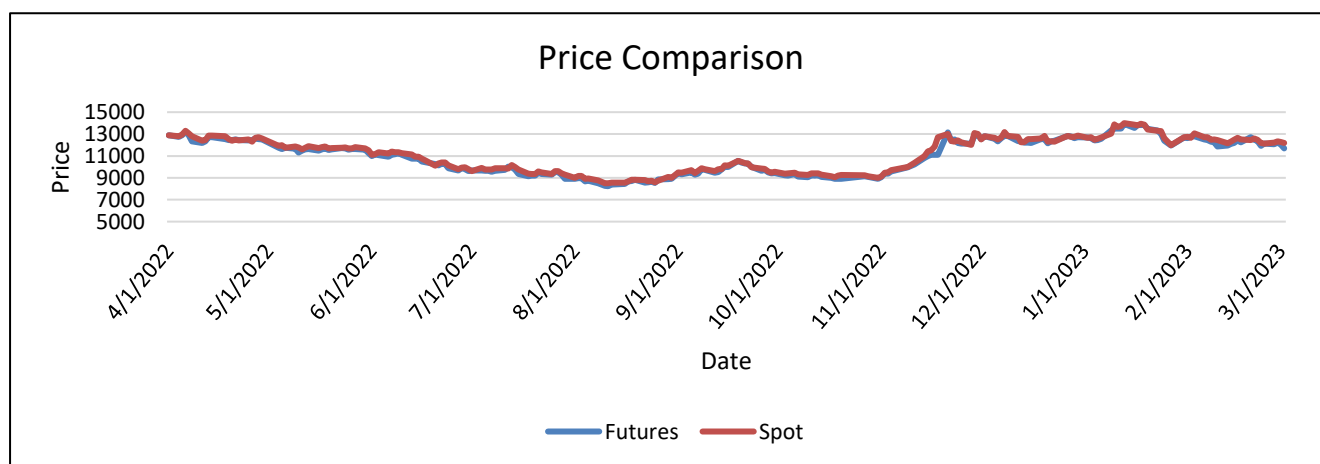
Standard Deviation			
	Futures	Spot	Mandi
Futures	1	0.991033	-
Spot	1.009048	1	-
Mandi	-	-	-

- 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.

As Guar gum is a processed commodity mandi prices for the same are not available



Source: Spot and Future Prices: NCDEX

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 Squareroot of Standard Deviation of daily returns for the period from 1 April 2022 to 31 March 2023)

Value of daily futures price volatility (April 2022- March 2023)

Volatility	Month	Value
Max	Nov	0.030
Min	Oct	0.012

Value of daily Spot price volatility (April 2022- March 2023)

Volatility	Month	Value
Max	Nov	0.031
Min	Oct	0.011

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	3
Backwardation	0

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

	GUARGUM5
Basis Volatility	7.24
Hedge efficiency	0.77

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 centers (information to be provided state-wise and UT-wise).

State	Major Physical Markets	Availability of NCDEX Delivery center
Rajasthan	Jodhpur	Basis Center
	Bikaner	ADC
	Sri Ganganagar	ADC
	Hanumangarh	
	Barmer	
	Jaisalmer	
	Nokha	ADC
Haryana	Bhiwani	
	Siwani	
	Hisar	
	Sirsa	
Gujarat	Banaskantha	ADC (Deesa)
	Ahmedabad	

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	Rajasthan	Gujarat	Haryana
April-22	35168	19983	10984
May-22	34394	23984	9923
June-22	34767	23823	8619
July-22	34481	21573	7470
August-22	29193	20633	6543
September-22	25086	15841	8384
October-22	25997	16270	7689
November-22	36754	15979	9521
December-22	36324	16322	10626
January-23	35174	19992	12511
February-23	36068	21141	12581
March-23	35212	23503	12576

Note - The OI for 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 list of Awareness programme, Stakeholder engagement programme has conducted for FY2022-23

Sr. Number	Programme	Location	Number of Participants
1	Awareness Programme	Lucknow	38
2	Awareness Programme	Mysore	25
3	Awareness Programme	Thane, Maharashtra	52
4	Awareness Programme	Hanumangarh	70
5	Awareness Programme	Sadul Shahr, Hanumangarh	70
6	Awareness Programme	Niwai	22
7	Awareness Programme	Ahmedabad, Gujarat	32
8	Awareness Programme	Rajkot, Gujarat	55
9	Awareness Programme	New Delhi	32
10	Awareness Programme	Unjha	60
11	Awareness Programme	Andheri, Mumbai	37
12	Awareness Programme	Hyderabad	25
13	Awareness Programme	Bangalore	25
14	Awareness Programme	Jodhpur, Rajasthan	36
15	Awareness Programme	Bikaner, Rajasthan	47
16	Awareness Programme	Bhilwara, Rajasthan	35
17	Awareness Programme	Padampur, Rajasthan	35
18	Awareness Programme	Sri Ganganagar	53
19	Awareness Programme	Suratgarh	88
20	Awareness Programme	Kolkata	35
21	Awareness Programme	Surat	18
22	Awareness Programme	Guna, Madhya Pradesh	30
23	Awareness Programme	Anjar, Lutch, Gujarat	38

24	Awareness Programme	Raipur, Chhattisgarh	112
25	Awareness Programme	Patan, Gujarat	104
26	Awareness Programme	Nashik	200
27	Awareness Programme	Udaipur	150
28	Awareness Programme	Rajkot	100
29	Awareness Programme	Hissar	100
30	Awareness Programme	Nagpur, Maharashtra	120
31	Awareness Programme	Raipur	100
32	Awareness Programme	Gwalior, Madhya Pradesh	78
33	Awareness Programme	Bhopal , MP	54
34	Awareness Programme	Indore, Madhya Pradesh	47
35	Awareness Programme	Siliguri, West Bengal	39
36	Awareness Programme	Alipurduar, West Bengal	31
37	Awareness Programme	Meerut, Uttar Pradesh	30
38	Awareness Programme	Bhopal, Madhya Pradesh	44
39	Awareness Programme	Indore, Madhya Pradesh	80
40	Awareness Programme	Chennai, Tamil Nadu	24
41	Awareness Programme	Kanpur, Uttar Pradesh	60
42	Awareness Programme	Chindwara, MP	50
43	Awareness Programme	Seoni , MP	40
44	Awareness Programme	Kolkata	25
45	Awareness Programme	Raipur, Chattisgarh	136
46	Awareness Programme	Lucknow	177
47	Awareness Programme	Rourkela	65
48	Awareness Programme	Muzaffarnagar	70
49	Awareness Programme	Kochi	86
50	Awareness Programme	Bhilai	70
51	Awareness Programme	Thalamadla	80
52	Awareness Programme	Kolkata	45
53	Awareness Programme	Online	30
54	Awareness Programme	Online	18
55	Awareness Programme	Online	23
56	Awareness Programme	Odisha	9
57	Awareness Programme	Odisha	15
58	Awareness Programme	Karnataka	5
59	Awareness Programme	Bihar	18
60	Awareness Programme	West Bengal	6
61	Awareness Programme	Andhra Pradesh	29
62	Awareness Programme	Online	11
63	Awareness Programme	Online	7
64	Awareness Programme	Online	21
65	Awareness Programme	Online	6
66	Awareness Programme	Online	9
67	Awareness Programme	Online	14
68	Awareness Programme	Online	82
69	Awareness Programme	Online	28
70	Awareness Programme	Online	25
71	Awareness Programme	Online	50
72	Awareness Programme	Online	30
73	Awareness Programme	Online	25
74	Awareness Programme	Online	5
75	Awareness Programme	Online	10
76	Awareness Programme	Online	7
77	Awareness Programme	Online	13
78	Awareness Programme	Online	16
79	Awareness Programme	Online	23
80	Awareness Programme	Online	53

81	Awareness Programme	Online	17
82	Awareness Programme	Online	30
83	Awareness Programme	Online	15
84	Awareness Programme	Online	25
85	Awareness Programme	Online	35
86	Awareness Programme	Online	10
87	Awareness Programme	Online	30
88	Awareness Programme	Online	12
89	Awareness Programme	Online	6
90	Awareness Programme	Online	7
91	Awareness Programme	Online	20
92	Awareness Programme	Online	50
93	Awareness Programme	Online	30
94	Awareness Programme	Online	13
95	Awareness Programme	Online	10
96	Awareness Programme	Online	6
97	Awareness Programme	Online	6
98	Awareness Programme	Online	8
99	Awareness Programme	Online	13
100	Awareness Programme	Online	6
101	Awareness Programme	Online	25
102	Awareness Programme	Online	8
103	Awareness Programme	Online	14
104	Awareness Programme	Online	11
105	Awareness Programme	Online	10
106	Awareness Programme	Online	6
107	Awareness Programme	Online	9
108	Awareness Programme	Online	14
109	Awareness Programme	Online	16
110	Awareness Programme	Online	11
111	Awareness Programme	Online	8
112	Awareness Programme	Online	8
113	Awareness Programme	Online	13
114	Awareness Programme	Online	15
115	Awareness Programme	Online	25
116	Awareness Programme	Online	25
117	Awareness Programme	Online	26
118	Awareness Programme	Online	18
119	Awareness Programme	Online	52
120	Awareness Programme	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.

1. Identifying new value chain participants in the in the region of of Lunkarsar, Khajuwala and Hissar.
2. Conducted awareness programs at Sirsa and Hissar in Haryana.
3. One on 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

N.A

ANNEXURE I

Qualitative and quantitative measure for Hedge effectiveness ratio

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.