

Performance Review of Commodity

NATURAL WHITISH SESAME SEEDS

1. Background

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

Sesame (*Sesamum indicum* L.) is a short duration crop grown throughout the year which belongs to the family Pedaliaceae. It has been observed that Sesame is cultivated in India since ancient times. India ranks 3rd in production of sesame seeds in the world.



Sesame seeds are tiny, oval with a nutty taste and almost invisible crunch. Through the ages, the seeds have been a source of food and oil (40-50% oil content). Depending on the variety of the seed, they come in different colours like white, brown, black etc., Sesame seed oil is still the main source of fat used in cooking in the near and far east. As per market feedback whitish Sesamum seed account for around 75% of the Sesame oil has many medicinal values as it is good for respiratory disorders, eye-infections, and digestive ailments.

In India, the Sesamum crop can be cultivated as kharif, summer and semi-rabi crop. Around 75% of the Sesame seed is cultivated during the kharif period.

Crop cycle: The crop calendar for Sesame seed in various states across the country is as per the table below:

Season	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Kharif												
Rabi												
Summer												
	Sowing		Harvesting									

Source: <http://www.commoditiescontrol.com>

Life Cycle: Value Chain of the Commodity	Major Varieties												
<pre> graph TD Farmers --> Aggregators Aggregators --> Brokers Importer --> Traders Brokers --> Traders Traders --> Processor Traders --> Export Traders --> DirectConsumption[Direct Consumption] Processor --> Oil Processor --> Meal Oil --> Consumer Meal --> Consumer </pre>	White seed: RT-46, 103, TKG-21,22, T-78, Sekhar Brown / Black seed: Rama, Savitri, PKDS-11,12 NCDEX Quality Parameters Natural Whitish Sesame Seeds 99x2x1 grade with the following specifications, Sesame to be necessarily machine cleaned: <table> <tr> <th>Whitish Seed</th><th>99 % Basis</th></tr> <tr> <td>Other Colored (Including 1% Max. Rain Damaged) Seeds</td><td>2% Basis, from 2 % to 4 % Accepted at 1:1 Discount and above 4% to 5% at 1:2 Discount or part thereof, above 5% rejected</td></tr> <tr> <td>Admixture</td><td>1% Max</td></tr> <tr> <td>FFA</td><td>1.5 % Max</td></tr> <tr> <td>Moisture content</td><td>6% Max</td></tr> <tr> <td>Oil content</td><td>48% Min</td></tr> </table> Other Color Seed includes dark seed, light seed (Small seed / Yellowish in color), Rain damaged, touched or rain affected seeds etc. Admixture: Anything other than sound Sesame Seeds, this will pass through a 1.0 mm round sieve hole and sorted matter on the purity work board it includes all organic and inorganic matters like any mineral, animal or plant matter, Leaves, pods, twigs, earth, sand dust, stones, other crops seeds, detached seed coats and the likes.	Whitish Seed	99 % Basis	Other Colored (Including 1% Max. Rain Damaged) Seeds	2% Basis, from 2 % to 4 % Accepted at 1:1 Discount and above 4% to 5% at 1:2 Discount or part thereof, above 5% rejected	Admixture	1% Max	FFA	1.5 % Max	Moisture content	6% Max	Oil content	48% Min
Whitish Seed	99 % Basis												
Other Colored (Including 1% Max. Rain Damaged) Seeds	2% Basis, from 2 % to 4 % Accepted at 1:1 Discount and above 4% to 5% at 1:2 Discount or part thereof, above 5% rejected												
Admixture	1% Max												
FFA	1.5 % Max												
Moisture content	6% Max												
Oil content	48% Min												

Table: Reference Years for Commodities

Sl. No.	A	B	C
Crop Season	Kharif	Kharif (Long Duration crop)	Rabi
Crops	Paddy, Maize, Bajra, Guar seed, Kapas, Sesame Seed, Groundnut	Castor seed and Turmeric	Barley, Coriander, Jeera, Isabgol Seed
Relevant Processed commodities	Guar gum, Cotton, Cotton seed Oil cake, Gur, Crude Sunflower Oil	Castor Oil	-
Sowing Time	July onwards	July onwards	October onwards
Harvesting Time	Oct onwards	Jan onwards	March onwards
Reference Year Financial Year 2023-24 (Apr-Mar)			
Corresponding Years			
Production Year (PY)	2023-24 (July-Sept)	2022-23 (July-June)	2022-23 (July-June)
Marketing Year (MY)	2023-24 (Oct-Sept)	2023-24 (Jan/Feb-Dec/Jan)	2023-24 (Mar/Apr - Feb/Mar)
Calendar Year (CY)	2023 (Jan-Dec)	2023 (Jan-Dec)	2023 (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 2023-24= PY 2023-24= MY 2023-24= CY 2023	FY 2023-24= PY 2022-23 = MY 2023-24= CY 2023	FY 2023-24= PY 2022-23 = MY 2023-24= CY 2023

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)

(Lakh Tonnes)

Global Scenario	Previous FY (2021-22)*	Current FY (2022-23)* (P)
Opening Stocks	NA	NA
Production	63.54	67.41
Imports	24.58	22.57

Total Supply	NA	NA
Exports	21.50	19.62
Domestic Consumption	NA	NA
Closing stocks	NA	NA

Source: FAO (Mar 2024); NA: Data is not available in the public domain; P: Provisional

Latest data for FY 2023-24 is not available.

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

(Lakh Tonnes)

Indian Scenario	Previous FY (2022-23)	Current FY (2023-24) (P)
Opening Stocks	10.79	NA
Production (Inclusive of all varieties)	8.02	4.29
Production of Whitish Sesame seeds	6.02	3.22
Import	0.64	1.13
Total Supply	2.29	1.21
Export	2.28	2.19
Domestic Demand (including Direct Consumption+ Crushing)	NA	NA
Total Demand (Exports + Domestic Demand+ seeds retained for sowings)	NA	NA
Closing Stocks	NA	NA

Source: Production: Ministry of Agriculture; P: Provisional; NA: Data is not available in the public domain;

Production data for 2023-24 is as per 2nd advance estimates of Production dated on 29 Feb, 2024

Import/Export: Ministry of Commerce; HS codes used are 12074090 and 12074010; For FY 2023-24, Import and export data is available only for period of Apr 2023 to Feb 2024;

Total Demand cannot be calculated for FY 2022-23 and 2023-24. It is not readily available in public domain with any other source.

Figure for seeds is not available for FY 2022-23 and 2023-24.

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

As per market feedback, whitish sesame seed production is around 75% of total Sesame seed production. However, for calculation of Total Supply, Beginning Stock and Ending Stocks, Production of Sesame seed, irrespective of its variety, has been considered.

(Lakh Tonnes)

Rank	Top Producing Countries			Top Consuming countries		
	Country	Previous FY (2021-22)*	Current FY (2022-23)* (P)	Country	Previous FY (2021-22)*	Current FY (2022-23)* (P)
1	Sudan	11.19	12.32	NA		
2	India	8.17	7.89			
3	Myanmar	6.42	7.61			
4	United Republic of Tanzania	7.00	7.00			
5	Nigeria	4.40	4.50			
6	China	4.57	4.37			
7	Burkina Faso	2.70	2.09			
8	Chad	1.97	2.02			
9	Ethiopia	1.90	1.80			
10	South Sudan	1.82	1.80			
	Others	13.40	16.02			
	Grand Total	63.54	67.41			

Source: FAO (Mar 2024); NA: Data is not available in the public domain; P: Provisional;

Latest data for FY 2023-24 is not available.

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

(Lakh Tonnes)

Rank	Top Exporting countries			Top Importing countries		
	Country	Previous FY (2021-22)	Current FY (2022-23)* (P)	Country	Previous FY (2021-22)*	Current FY (2022-23)* (P)
1	Sudan	2.93	3.57	China	12.18	11.11
2	Nigeria	1.55	2.97	Turkey	2.03	1.80
3	India	2.60	2.34	Japan	1.51	1.79
4	United Republic of Tanzania	1.33	1.21	Republic of Korea	0.87	0.84
5	Ethiopia	1.86	1.08	Israel	0.70	0.65
6	Mozambique	0.90	1.07	Iran (Islamic Republic of)	0.61	0.63
7	Myanmar	1.72	1.02	Saudi Arabia	0.48	0.38
8	Burkina Faso	0.61	0.59	Jordan	0.35	0.26
9	Brazil	0.65	0.42	India	0.25	0.24
10	Mali	0.47	0.30	United Arab Emirates	0.19	0.20
	Others	6.88	5.06	Others	5.42	4.67
	World Total	21.50	19.62	World Total	24.58	22.57

Source: FAO (Mar 2024); NA: Data is not available in the public domain; P: Provisional;
Latest data for FY 2023-24, is not available.

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

State-wise Production of Sesame seed in India

The major Sesame seed producing states include West Bengal, Madhya Pradesh, Gujarat, Rajasthan, Uttar Pradesh and Tamil Nadu. The state wise production is given below.

(Lakh Tonnes)

States / UT	Previous FY (2021-22)	Current FY (2022-23)
West Bengal	2.54	2.51
Madhya Pradesh	1.22	1.46
Gujarat	1.34	1.44
Uttar Pradesh	0.71	0.84
Rajasthan	0.77	0.79
Tamil Nadu	0.28	0.25
Karnataka	0.23	0.13
Telangana	0.26	0.11
Assam	0.08	0.10
Andhra Pradesh	0.09	0.08
Others	0.37	0.31
All India	7.89	8.02

Source: Ministry of Agriculture

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

c. Major changes in the policies governing trade in the spot markets of the commodity (FY 2023-24)

No major policy change related to sesame seed was noted during FY 2023-24

d. Geo-political issues in the commodity and its impact on Indian scenario (FY 2023-24)

Date	Event	Key Details	Key Implications/Impact
-	No major geo-political issue was noted related to sesame seed during FY 2023-24	-	-

2. Trading related parameter

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

No trading volume during FY 2023-24

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

Symbol	Traded Volume (MT)	Deliverable Supply(MT)	Proportion
SESAMESEED	-	4,29,000	

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

Symbol	Traded volume (MT)	Production(MT)	Proportion
SESAMESEED	-	4,29,000	

d. Annual average Open interest as proportion of total production

Symbol	Average Open Interest (MT)	Production(MT)	Proportion
SESAMESEED	-	4,29,000	

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

Symbol	Average Open Interest (MT)	Deliverable supply(MT)	Proportion
SESAMESEED	-	4,29,000	

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

No trading volume during FY 2023-24

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

No delivery during FY 2023-24

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

No delivery during FY 2023-24

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

Nil

j. Annual average volume to open interest ratio

0.00%

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

Symbol	Member Count	Client Count
SESAMESEED	-	-

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

Annual Average	N/A
Maximum Daily Value	N/A

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

Commodity	Count
SESAMESEED	0

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

n. Algorithmic trading as percentage of total trading

Commodity	%
SESAMESEED	0.00%

o. Delivery defaults

Number of instances	0
Quantity involved	0
Value involved	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.

Correlation			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1		
<i>Spot</i>	0.909011	1	
<i>Mandi</i>	0.174304	0.126361	1

Standard Deviation			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1	1.051144	3.435686
<i>Spot</i>	0.951344	1	3.268519
<i>Mandi</i>	0.291063	0.305949	1

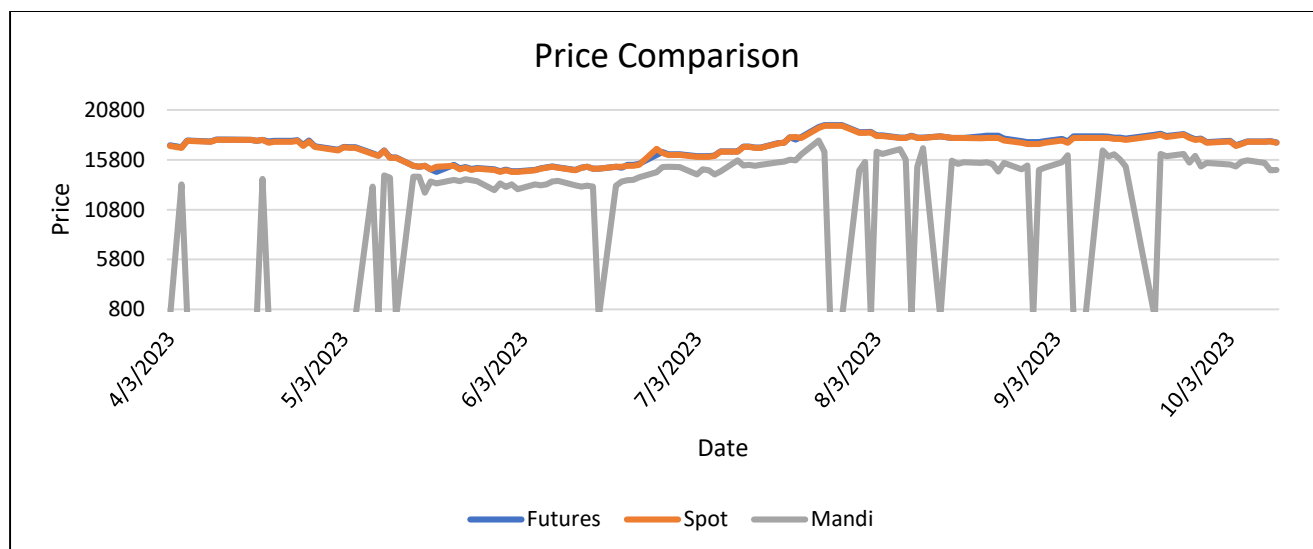
- d. Correlation between international futures & international spot prices along with ratio of standard deviation (wherever relevant comparable are available).

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.

Correlation			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1		
<i>Spot</i>	0.909011	1	
<i>Mandi</i>	0.174304	0.126361	1

Standard Deviation			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1	1.051144	3.435686
<i>Spot</i>	0.951344	1	3.268519
<i>Mandi</i>	0.291063	0.305949	1



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 01 April 2023 to 31 March 2024)

Value of daily futures price volatility (April 2023- March 2024)

Volatility	Month	Value
Max	May	0.022073
Min	Feb	0.005098

Value of daily Spot price volatility (April 2023- March 2024)

Volatility	Month	Value
Max	Jun	0.025104
Min	Feb	0.006391

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	0
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. (Volatility calculated by Square root of Standard Deviation of daily returns for the period from 01 April 2023 to 31 March 2024)

	SESAMESEED
Basis Volatility	9.695842
Hedge efficiency	0.842245285

- 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
Gujarat	Unjha	(Basis)
	Rajkot	(ADC)
	Amreli	NA
	Halvad	NA
	Junagadh	NA
Rajasthan	Dausa	NA
	Swai Madhopur	NA
	Churu	NA
	Bikaner	NA
Uttar Pradesh	Hamirpur	NA
	Mahoba	NA

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

NA

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

NA

Note - The OI for Custodian Participation 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 FY2023-24

Sr. Number	Programme	Location	Number of Participants
1.	Investor Awareness Program	Kochi	54
2.	Investor Awareness Program	Patna	48
3.	Investor Awareness Program	Purnia	33
4.	Investor Awareness Program	Kavardha, Raipur, CG	70
5.	Investor Awareness Program	Kolkata	40
6.	Investor Awareness Program	Delhi	73
7.	Investor Awareness Program	Mehsana, Gujarat	31
8.	Investor Awareness Program	Rajkot	45
9.	Investor Awareness Program	Delhi	30

Sr. Number	Programme	Location	Number of Participants
10.	Investor Awareness Program	Durgapur	40
11.	Investor Awareness Program	Bhopal	40
12.	Investor Awareness Program	Deesa	50
13.	Investor Awareness Program	Indore	32
14.	Investor Awareness Program	Durgapur	42
15.	Investor Awareness Program	Indore	40
16.	Investor Awareness Program	Varanasi	50
17.	Investor Awareness Program	Lucknow	40
18.	Investor Awareness Program	Sirsa	35
19.	Investor Awareness Program	Delhi	35
20.	Investor Awareness Program	Indore	30
21.	Investor Awareness Program	Raigarh	38
22.	Investor Awareness Program	Kavardha, Raipur	35
23.	Investor Awareness Program	Ratlam	26
24.	Investor Awareness Program	Kolkata	94
25.	Investor Awareness Program	Ratlam	36
26.	Investor Awareness Program	Neemuch	40
27.	Investor Awareness Program	Delhi	41

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

- One to one meeting with the market participants create awareness about the new developments /new initiatives at exchange level.

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

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 FY 2023-24.

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.