









CARDAMOM

HEDGING PRICE RISK

MCX
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The origins of cardamom are unknown, yet it is believed that it grew as wild herbs in the monsoon forests of the Western Ghats in southern India. Cardamom finds its first mention in the Charak Samhita (an early text on Ayurveda) written somewhere between 2nd century BC and 2nd century AD. The Charak Samhita says that cardamom is an important constituent in many medicines. Later, the spice finds mentions in many Sanskrit texts as being used in rituals and ceremonies.

In ancient times, the Greeks imported cardamom as a digestive medicinal herb; the spice slowly finding use in recipes and drinks due to its flavour and fragrance. From the 16th century onwards it found a place among spice exports from India.

Till the 19th century, cardamom grew in the wild and had to be searched for in the monsoon forests, but the British colonies suggested the establishment of plantations and domesticated the crop.

Source: CRN India

HISTORY

Small cardamom is the dried, unripe fruit of long-growing herbs *(Elettaria cardamomum)* and is also known as the 'queen of spices'. Enclosed in the fruit pods are tiny, brown, aromatic seeds that have a pleasant aroma and a characteristic warm, slightly pungent taste. It is a very versatile spice, used as a condiment in culinary preparations and confectionery; it also finds use in medicines. The oil contained in the seeds and pods are used in perfumes and as stimulants.

Small cardamom is grown in India, commercially in plantations, under the shade of tall forest tress at moderately high altitudes in the evergreen forests of the Western Ghats. India is a major producer and consumer of cardamom, holding the second spot in world production; Guatemala taking the top slot. With no domestic consumption, Guatemala also becomes the largest exporter in the world. The major consumers are the west Asian countries; India, Pakistan, and Japan; the U.S. and Europe. Saudi Arabia is the single largest importer in the world, followed by Kuwait, because of the huge demand in these countries for making flavoured Arab coffee.

Cardamom is a very labour-intensive crop, as the fruits have to be picked individually by hand before they are fully ripe, and over several months. The quality and price of the product depends on a timely harvest and proper drying. The dried cardamom is hand-graded based on such features like size and colour, which is also a specialized, labour-intensive activity.

It is considered as a versatile spice as it is used in both sweet and salty foods. Oil from the seeds of cardamom and also the leftover resin have their usage in processed foods, tonics, liquors, and perfumes. This fruit is also greatly used in ayurvedic medicines, and has healing effects in teeth and gum infections, and digestive disorders.

USES OF CARDAMOM

1. Cardamom is widely used as spice, renowned for its flavour and aroma. In south Asia, green cardamom is largely used in traditional Indian sweets and in the making of tea; in Arabia it is used in the preparation of 'gahwa'—a strong cardamom coffee that is used to welcome guests; in northern Europe, it is an essential ingredient in sweet foods.
2. Therapeutically, cardamom finds varied uses, such as in the treatment of teeth and gum infections, digestive disorders, throat trouble, and skin problems.
3. Oil of cardamom is used in processed foods, tonics, liquor, and perfumes.

Indian cardamom: production and exports

Year	Production (MT)	Export (MT)
1999-0	9,330	676
2000-1	10,480	1,545
2001-2	11,365	1,031
2002-3	11,920	682
2003-4	11,580	690
2004-5	11,415	620
2005-6	12,540	863
2006-7	11,235	655
2007-8	9,450	500
2008-9	11,000	750
2009-10	10,075	1,975
2010-11	10,380	1,175
2011-12	15,000	4,650
2012-13	14,000	2,372
2013-14	16,000	3,600
2014-15	18,000	3,795
2015-16	23,890	5,500
2016-17	17,990	3,850
2017-18	20,650	5,680
2018-19*	12,940	2,850
2019-20#	11,230	2,090

Source: Statistics, Spices Board of India | #Advance estimate | *estimate

CULTIVATION PATTERN

Cardamom is a perennial plant. However, in India, replantation is done every 7–8 years as yields begin to decline after 5–6 years.

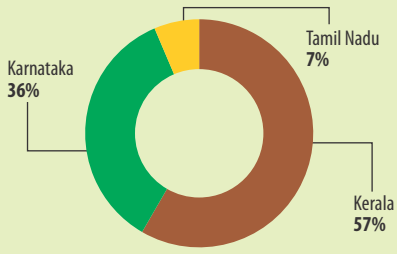
The major production season in India is from August to March–April (peak season is September –January). Though officially the new crop year starts from August, the new season can begin early or late depending on climatic conditions, especially the onset of rains. During the harvesting season, plucking can be done every 40–45 days.

Cardamom is a tropical herb that takes a fairly long time to mature, that is, two years, after which it starts bearing fruits. The plants require intermediate rains with periods of good sunshine. The plant grows best in loamy soil enriched with organic matter. Moderate shade also plays a key factor in high cardamom yield. The cardamom plant is grown either by planting a part of the rootstalk or by sowing seeds.

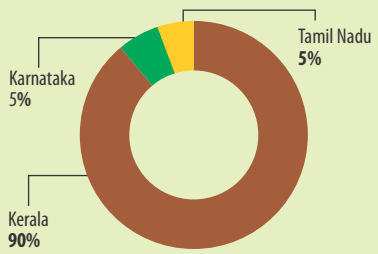
Cardamom, typical arrival months

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
INDIA	●	●	●					●	●	●	●	●
GUATEMALA	●	●	●								●	●

Major Indian states producing cardamom (by area) 2019-20*



Major Indian States producing cardamom (by production) 2019-20*

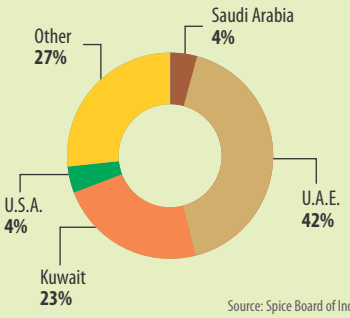


Source: Statistics, Spice Board of India | *Advn. Estimate

Major Importers of Indian Cardamom, 2018-19

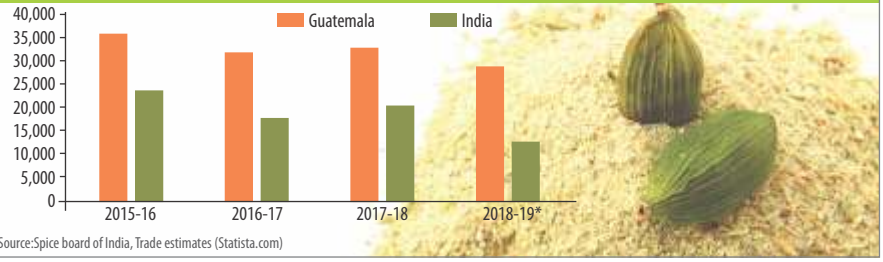
Imports (MT)

Country	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
SAUDI ARABIA	2500	2800	3969	2500	2923	121
U.A.E	444	422	493	494	1084	1191
KUWAIT	148	86	198	153	214	660
U.S.A	53	43	119	96	196	118
Other	455	444	722	607	1262	760
TOTAL(INCL.OTHERS)	**3600**	**3795**	**5500**	**3850**	**5680**	**2850**



Source: Spice Board of India

Cardamom production in Guatemala and India



Source:Spice board of India, Trade estimates (Statista.com)

IMPORTANCE OF HEDGING

Critical for stabilizing incomes of corporations and individuals, reducing risks may not always improve earnings, but failure to manage risk will have direct repercussion on the risk-bearer's long-term income. To gain the most from hedging, it is essential to identify and understand the objectives behind hedging. A good hedging practice, hence, encompasses efforts by companies to get a clear picture of their risk profile and benefit from hedging techniques.

FACTORS INFLUENCING THE MARKET

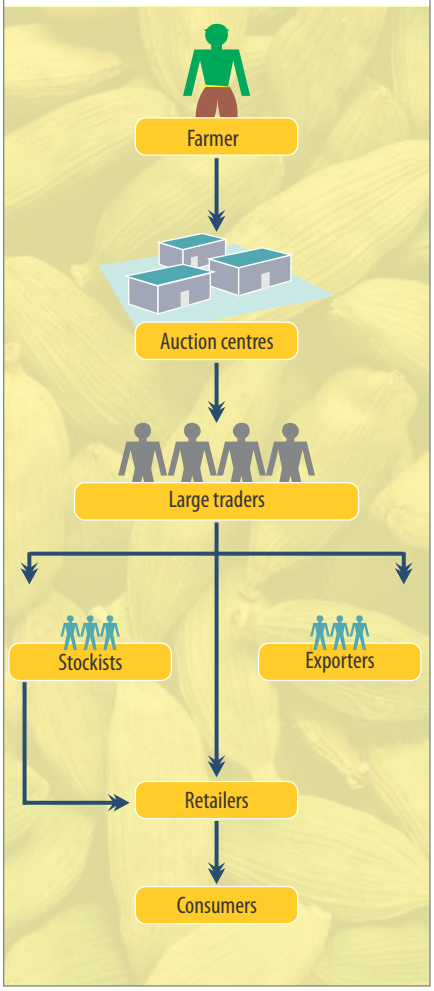
- Freshness, colour, aroma, and size
- Production in competing countries, mainly Guatemala.
- Annual production in India
- Year-ending stocks at India and Guatemala
- Seasonal variations and time of arrival of new crop in the market
- Domestic consumption, which is influenced by festivals



MAJOR TRADING CENTRES IN INDIA

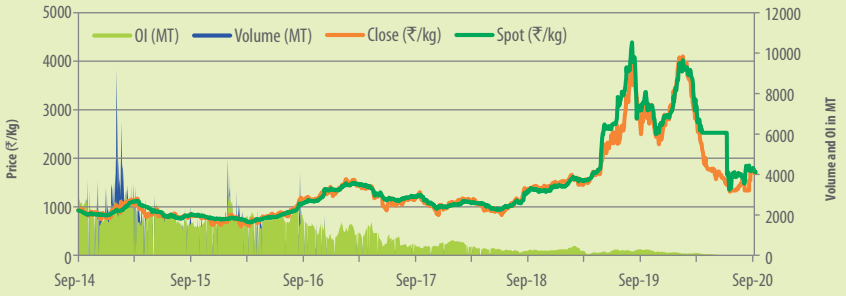
- Vandanmedu (Kerala)
- Bodinayakanur (Tamil Nadu)
- Kumily (Kerala)
- Thekkady (Kerala)
- Cochin
- Mumbai
- Delhi
- Kanpur

Typical marketing channel of cardamom in India

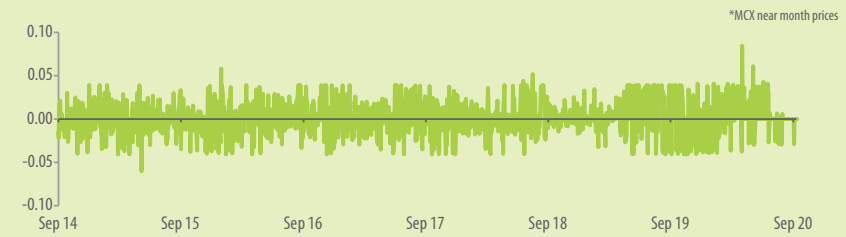


PRICE MOVEMENT

Cardamom prices



Daily average volatility of Cardamom*



YEAR	2014	2015	2016	2017	2018	2019	2020
ANNUALIZED VOLATILITY	28%	32%	29%	29%	24%	40%	29%

*till 5 May, 2021

How much Volatility Risk are you exposed to?

Cardamom: Witnessed annualized price volatility of 29% in 2020.

Which means: A firm in the cardamom business, with an annual turnover of ₹10 crores is exposed to a price risk of about 2.9 crores in 2020; India with an annual cardamom market size of 18000 tonnes, worth about ₹1600 crores is exposed to a risk on account of price volatility more than ₹472 crores. *(i.e. 29% of the holding value)*.

Are you prepared for volatility risk?

(Adoption of a risk management practice, such as hedging in the futures market can help shield against the perils of price volatility)

PRICE RISK MANAGEMENT

Risk management techniques are of critical importance for participants. Modern techniques and strategies, including market-based risk management financial instruments such as 'Cardamom Futures', offered on the commodity exchange platform can improve efficiencies and consolidate competitiveness through price risk management.

The importance of risk management cannot be overstated; the government too has set up high-level committees to suggest steps for fulfilling the objectives of price discovery and price risk management on commodity derivatives exchanges.

HEDGING MECHANISM

Hedging is the process of reducing or controlling risk. It involves taking equal and opposite positions in two different markets (such as physical and futures market), with the objective of reducing or limiting risks associated with price change. It is a two-step process, where a gain or loss in the physical position due to changes in price will be offset by changes in the value on the futures platform, thereby reducing or limiting risks associated with unpredictable changes in price.

FACTS ON HEDGING

- Understand the risk profile and appetite while formulating clear hedging objectives.
- Hedging can shield the revenue stream, the profitability, and the balance sheet against adverse price movements.
- Common avoidable mistake is to book profits on the hedge while leaving the physical leg open to risk.
- Hedging significantly lowers distress costs in adverse circumstances.
- A properly designed hedging strategy enables all participants like farmer, traders, stockists, and exporters to reduce risk. Hedging does not eliminate risk, it merely helps to transform risk.
- To gain the most from hedging, it is very essential to identify and understand the objectives behind hedging and get a clear picture of their risk profile.



HEDGING ILLUSTRATIONS

Situation 1. Hedging by a planter

A planter in October, after inspecting his plantation anticipates production of 1 metric tonne (MT) of cardamom in December. However, he is worried of prices falling in December. By hedging, the farmer can lock in a price for his expected production in October itself and protect himself against the possibility of falling prices.

The spot price of cardamom in October is ₹900 per kg and the price of December 201X futures contract is ₹950 per kg. The planter sells (shorts) 10 lots (1 lot = 100 kg) of December 201X futures contracts in October at ₹950 per kg. He pays only 5% of the contract value as initial margin to the exchange for taking a position in the futures market.

DATE	FUTURES MARKET PLATFORM	PHYSICAL MARKET
20th October	**SELL** Cardamom Futures Contract	
5th December	**BUY** Cardamom Futures Contract	**Sell** Cardamom, at ruling price

SCENARIO 1

IF PRICES WERE TO FALL



DATE	CARDAMOM SPOT PRICE	CARDAMOM FUTURES PRICE (expiry Dec. 15, 201X)
20th October	900	950
5th December	790	800

Futures	20th October	SELL	950	5th December	BUY	800	**150 (gain)**
Spot	20th October		900	5th December	SELL	790	110 (potential loss)

Net Selling Price: ₹940 (790+150)

Explanation

The planter, short sells 10 lots (1 lot = 100 kg) of 15th December 201X contract on 20th October and squares the contracts on 5th December. The value realized from the actual sale of cardamom in the physical market is ₹7,90,000 (790*1000) and cash inflow from futures market due to fall in prices is ₹1,50,000 (150*10*100). Thus, the net value realized from the sale of cardamom is ₹9,40,000 (7,90,000+1,50,000), making the net selling price ₹940 per kg (9,40,000/1,000), which is close to the locked-in price.

SCENARIO 2

IF PRICES WERE TO RISE



DATE	CARDAMOM SPOT PRICE	CARDAMOM FUTURES PRICE (expiry Dec. 15, 201X)
20th October	900	950
5th December	990	1000

Futures	20th October	SELL	950	5th December	BUY	1000	**50 (loss)**
Spot	20th October		900	5th December	SELL	990	90 (potential gain)

Net Selling Price: ₹940 (990-50)

Explanation

The planter, short sells 10 lots (1 lot = 100 kg) of 15th December 201X contract on 20th October and squares the contracts on 5th December. The value realized from the actual sale of cardamom in the physical market is ₹9,90,000 (990*1000) and cash outflow from futures market due to rise in prices is ₹50,000 (50*10*100). Thus, the net value realized from the sale of cardamom is ₹9,40,000 (9,90,000-50,000), making the net selling price ₹940 per kg (9,40,000/1,000), which is close to the locked-in price.

Note: The objective is to lock-in prices and to obtain protection from unwanted price volatility. This has been achieved through hedging on commodity exchange in both the scenarios of rising and falling prices, by which the planter has been able to sell his cardamom at the locked-in price itself.

HEDGING STRATEGY—BUYERS

- Commodity Derivatives Exchange is a neutral platform not associated with either buyers or sellers.
- Standardization of the contract and quality parameters, which are in accordance with physical market practices.
- Buyers can buy their requirements of the year in a futures contract by paying only a margin of 4% and lock their price for the entire year.
- They can keep on procuring cardamom in physical market round the year and square off corresponding position in futures.
- In that case, even if the cardamom price goes up, they do not incur any loss, because they profit from the futures market, which offsets their increased cost of procurement.

HEDGING STRATEGY—SELLERS

- The sellers (for example, farmers) can sell their estimated produce in advance at a commodity derivatives exchange and lock their price; if the price falls, they are not bothered because they profit from the futures market.
- The sellers have both options —either to deliver at the exchange on contract maturity or to sell their produce in the local physical market and square off the corresponding position in the futures market. If the price falls, the loss in the physical market is compensated by profits in the futures market.
- When sellers deliver cardamom in futures market, their timely payment is guaranteed by the exchange.
- The seller must confirm to the quality standards specified by the exchange.

HEDGING ILLUSTRATIONS

Situation 2. Hedging by an exporter

An exporter of spices receives an order in January to export 10 MT of cardamom in March. Due to quality and logistical concerns, he is planning to buy cardamom from the physical market in March to deliver the goods abroad. However, he is worried that prices would rise by March. By hedging, he can lock in the purchase price in January itself, and protect himself from rise in prices.

The spot price of cardamom in January is ₹1,000 per kg and the price of April 201Xcontract in futures market is ₹1,050 per kg. The planter buys (goes long) 100 lots (1 lot = 100 kg) of April 201X futures contracts in January at ₹1,050 per kg. He pays only 5% of the contract value as initial margin to the exchange for taking a position in the futures market.

DATE	FUTURES MARKET PLATFORM	PHYSICAL MARKET
20th January	**BUY** Cardamom Futures Contract	
25th March	**SELL** Cardamom Futures Contract	**BUY** Cardamom, at ruling price

SCENARIO 1

IF PRICES WERE TO RISE



DATE	CARDAMOM SPOT PRICE	CARDAMOM FUTURES PRICE (expiry Apr. 15, 201X)
20th January	1000	1050
25th March	1190	1200

Futures	20th January	BUY	1050	25th March	SELL	1200	**150 (profit)**
Spot	20th January		1000	25th March	BUY	1190	190 (potential loss)

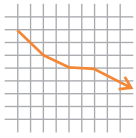
Net Buying Price: ₹1040 (1190-150)

Explanation

The exporter buys 100 lots (1 lot = 100 kg) of 15th April 201X contract on 20th January and squares the contracts on 25th March, when he buys cardamom in the physical market. The value paid for the actual purchase of cardamom from the physical market is ₹119,00,000 (1,190*10,000) and cash inflow from futures market due to rise in prices is ₹15,00,000 (150*100*100). Thus, the net value paid for the purchase of cardamom is ₹104,00,000 (119,00,000-15,00,000), making the net buying price ₹1,040 per kg (104,00,000/10,000), which is close to the budgeted price.

SCENARIO 2

IF PRICES WERE TO FALL



DATE	CARDAMOM SPOT PRICE	CARDAMOM FUTURES PRICE (expiry Apr. 15, 201X)
20th January	1000	1050
25th March	890	900

Futures	20th January	BUY	1050	25th March	SELL	900	**150 (loss)**
Spot	20th January		1000	25th March	BUY	890	110 (potential gain)

Net Buying Price: ₹1040 (890+150)

Explanation

The exporter buys 100 lots (1 lot = 100 kg) of 15th April 201X contract on 20th January and squares the contracts on 25th March, when he buys cardamom in the physical market. The value paid for the actual purchase of cardamom from the physical market is ₹89,00,000 (890 *10,000) and cash outflow to futures market due to fall in prices is ₹15,00,000 (150*100*100). Thus, the net value paid for the purchase of cardamom is ₹104,00,000 (89,00,000 + 15,00,000), making the net buying price ₹1,040 per kg (104,00,000/10,000), which is close to the budgeted price.

Note: The objective is to lock -in prices to protect from unwanted price volatility. This has been achieved through hedging on futures market in both the scenarios of rising and falling prices, by which the exporter has been able to purchase his cardamom at the budgeted price itself.

REGULATORY BOOSTS FOR HEDGERS

1. **Income tax exemptions for hedging.** As per provisions of the Finance Act, 2013, business profits/losses can be offset by losses/profits undertaken in the commodity derivatives transactions. Thus, hedgers are no longer forced to undertake physical delivery of commodities to prove that their transactions are for hedging and not 'speculation'.
2. **Limit on open position as against hedging.** This enables hedgers to take positions on their exposure in the physical market, and they are allowed to take position over and above the prescribed position limits on approval by the exchange.
3. **Early pay-in.** If a participant makes an early pay-in of a commodity, he may be exempted from paying all applicable margins, except mark to market margins.

A comprehensive Hedge Policy Document is available at:
https://www.mcxindia.com/docs/default-source/market-operations/trading-surveliance/reports/hedgepolicy.pdf?sfvrsn=2

Studies on cardamom futures contracts

Several studies have recognized the importance of exchanges in efficient price discovery, reduction in spot price volatility, reduction in information asymmetry, and so on.



An UNCTAD study in 2009 on cardamom futures contract *("Development impact of commodity exchanges in emerging markets," with India as case study)*, made the following observations: –

- Futures market has helped to stabilize prices in the spot market.
- Futures prices acts as a reference prices, helping farmers realize better price.
- Efficient price discovery and dissemination has brought more transparency in physical market transactions.
- Stakeholders have started using futures as a hedging tool for their price risk management.
- Futures market is providing a platform to the exporters where they can readily get export quality cardamom.
- Futures have encouraged farmers to grade their produce, thereby increasing their returns.
- Spot prices have also increased by approximately 70% since the inception of futures.
- Increased income realization is leading to increased spending on pre- and post-harvest processes.
- Increased investment in quality testing labs and warehouses.
- Shortened supply chain; increased share of farmers in consumer's rupee.

Study by IIM Kozhikode on the "Impact of Futures Trading on Cardamom" in 2014 found that there has been a reduction in price elasticity in cardamom post-introduction of futures trading. This has helped reduce vulner-ability of cardamom farmers.

Hedging Quotes

"Cardamom futures has worked as a benchmark for the Cardamom physical trade throughout India. The contract provides an avenue to hedge due to a healthy open interest and an efficient platform to deliver. Futures trade has been beneficial for the stakeholders of this commodity."

- Santhosh Joseph,
Allus Cardamom Point

"We have been associated with the Cardamom physical trade since a long time and we constantly track Cardamom futures.
It provides the physical participants an avenue to hedge, to track the prices and to deliver the goods on their platform."

- Manan Desai,
***Perfect Cardamom**, India*

CONTRACT SPECIFICATIONS OF CARDAMOM

Symbol	**CARDAMOM**
Description	CARDAMOMMMYY
Contract Listing	Contracts are available as per the Contract Launch Calendar
Contract Start Day	Contract launch date shall be the 16th day of contract launch month. If 16th day is a holiday then the following working day.
Last Trading Day	15th of the contract expiry month. If 15th is a holiday then preceding working day.
TRADING	
Trading Period	Mondays through Fridays: 9.00 am to 5.00 pm
Trading Unit	100 KG (1 quintal)
Quotation/Base Value	₹/Kg
Price Quote	Ex- Vandanmedu, Dist. Idukki, Kerala (exclusive of all tax and levies)
Maximum Order Size	5000 KG (50 quintals)
Tick Size (Minimum Price Movement)	10 paisa/Kg
Daily Price Limits	**Initial slab**: 4% ; **Enhanced slab**: 2% ; **Total DPL**: 6% DPL shall have two slabs – Initial and enhanced slab. Once the initial slab limit is reached in any contract, then after a period of 15 minutes this limit shall be increased further by enhanced slab, only in that contract. The trading shall be permitted during the 15 minutes period within the initial slab limit. After the DPL is enhanced, trades shall be permitted throughout the day within the enhanced total DPL of 6%.
Initial Margin*	Minimum 12% or based on SPAN whichever is higher

continued...

Extreme Loss Margin	Minimum 1%
Maximum Allowable Open Position**	For individual clients: 56 MT For a member collectively for all clients: 560 MT or 15% of the market wide open interest, whichever is higher. Near Month Limits For individual clients: 14 MT Near month member level position limit shall be equivalent to the one fourth of the overall member level position limit.
DELIVERY	
Delivery Unit	100 Kg, and direct multiples thereof.
Delivery Period Margin	Delivery period margins shall be higher of: **a.** 3% + 5 day 99% VaR of spot price volatility Or **b.** 35%
Tender Period***	Last 5 days (including expiry day) of the contract and 1st working day after expiry of the contract.
Delivery Centre(s)	At Exchange designated warehouse at Vandanmedu in Idukki Dist of Kerala State
Quality Standard	Cardamom 6.5mm bold bulk 1. Size of the capsules: Entire quantity of cardamom delivered shall remain on a sieve of 6.5mm size. However, 8% droppings by count will be allowed. 40% of the quantity delivered should be 7 mm and above. 2. The Entire stock delivered shall be crop of current season. 3. Density of stock delivered shall be 360 gms per litre [385 gm l/w] minimum. 4. The cardamom delivered shall be free from blacks. 5. Split and thrips capsules. 3% max by count. 6. The colour of cardamom delivered shall be green, as per prevailing market available quality in the particular crop year. 7. It shall not be discoloured capsules. However, 2 side and 1 side discoloured capsule together will be allowed upto 30% by count. 8. Tips Open: 5% max by count allowed. 9. Shriveled Capsules: 2% max by count allowed. 10. Fruits (Yellow): 2% max by count allowed.
Packing	Delivery would be accepted only if the stock is packed in double jute bag with inner black polyethelene lining containing 50kg net weight of cardamom of specified quality.
Delivery Logic	Compulsory
Staggered Delivery Tender Period	The staggered delivery tender period would be the last 5 days (including expiry day) of the contracts. The seller/buyer having open position shall have an option, of submitting an intention of giving/taking delivery, on any day during the staggered delivery period. On expiry of the contract, all the open positions shall be marked for compulsory delivery.
Delivery Order Rate	*On Tender Days:* The delivery order rate (the rate at which delivery will be allocated) shall be the closing price (weighted average price of last half an hour) on the respective tender day except on the expiry date. *On Expiry:* On expiry date, the delivery order rate or final settlement price shall be the Due Date Rate (DDR) and not the closing prices.
Due Date Rate (Final Settlement Price)****	The Due Date Rate (DDR) shall be arrived at by taking the simple average of the last three trading days polled spot prices, viz., E_0, E_{-1}, & E_{-2} (E-Expiry date). In the event of the spot prices for any one of E_{-1} and E_{-2} not being available the spot price of E_{-3} would be used for arriving at the average. In case spot prices are not available for both E_{-1} and E_{-2}, then the average of E_0 and E_{-3} (two days) would be taken. If all the three days' prices, viz., E_{-1}, E_{-2} and E_{-3} are not available, then only one day's price, viz., E_0 will be taken as the DDR. In case of non-availability of polled spot price on expiry day (E0) due to sudden closure of physical market under any emergency situations noticed at the basis centre, Exchanges shall decide further course of action for determining FSP in consultation with SEBI.

*Note: Please refer to the exchange circulars for latest contract specifications | * The Margin Period of Risk (MPOR) shall be 2 days in accordance with SEBI Circular no. SEBI/HO/CDMRD//DRMP/CIR/P/2016/77 dated September 01, 2016 accordingly, the initial margin shall be scaled up by root 2. | **Pursuant to SEBI circular EBI/HO/CDMRD/DMP/CIR/P/2017/84 dated July 25, 2017 | *** As per SEBI directive SEBI/HO/ CDMRD/DRMP/CIR/P/2016/77 dated Sep 01, 2016 | **** As per SEBI directive SEBI/HO/CDMRD/DRMP/CIR/P/2016/90 dated Sep 21, 2016*

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