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# CAN WE RECLAIM TOP SPOT IN CARDAMOM EXPORTS?

India was the world's largest exporter of cardamom till 1985. However, recently Guatemala has emerged as a major competitor to Indian cardamom. We can reclaim our status for sure, provided the government steps up support to the cardamom growers.

**S**mall cardamom, the queen of spices, is the seed of the perennial plant *Elettaria Cardamomum Maton* which belongs to the *Zingiberaceae* (ginger) family. The plant is reported to have originated in India (the southern Malabar coast) and Sri Lanka. However, the civilisations in Mesopotamia, Persia, China, Egypt and Europe have prized this spice since centuries.

Indian cardamom has a history as old as human civilisation and today it is among the most exotic and highly prized spices. India used to be the main producer and exporter of this commodity. However, recently Guatemala has emerged as a major competitor to Indian cardamom in the international spice market.

Indian cardamom is offered to

the international markets in different grades like 'alleppey green extra bold' (AGEB), 'alleppey green bold' (AGB) and 'alleppey green superior' (AGS). India is a traditional export-

er of cardamom to the Middle East countries and Japan and Russia, while Pakistan, Afghanistan, Singapore and the UK are the major importers of large cardamom.



## Cardamom varieties

There are three distinctive types of cardamom grown in India, viz, Malabar, Mysore and Ceylon. India cultivates the Malabar variety in Kerala, Karnataka and Tamil Nadu. The Malabar type is traded as the alleppey green cardamom and considered to be the best grade in the world.

The two major commercial varieties of small cardamom in the world are the Malabar and the Guatemalan. Guatemalan cardamom is grown mainly in the central state of Alta Verapaz and in the southwestern states of Suchitepequey, Solola and Quezaltenango. Indian cardamom is slightly smaller, but more aromatic.

Table I

**State-wise Area and Production of Small Cardamom in India During 1995-96 to 2006-07**
*(Area in hectares and production in million tonnes)*

Year/states	Kerala		Karnataka		Tamil Nadu		Total	
	Area	Production	Area	Production	Area	Production	Area	Production
1995-96	44,248	5,380	33,743	1,745	5,811	775	83,802	7,900
1996-97	41,268	4,550	25,996	1,360	6,329	715	73,593	6,625
1997-98	40,867	5,290	25,686	1,860	5,891	750	72,444	7,900
1998-99	41,449	4,990	25,638	1,510	5,048	670	72,135	7,170
1999-00	41,491	6,585	25,882	1,945	5,056	800	72,429	9,330
2000-01	41,288	7,580	25,947	2,100	5,085	800	72,320	10,480
2001-02	41,347	7,256	26,002	2,145	5,007	795	72,356	10,196
2002-03	41,412	8,680	26,644	2,310	5,069	930	73,125	11,920
2003-04	41,332	8,875	26,838	1,740	5,067	965	73,237	11,580
2004-05	41,378	8,616	27,094	1,879	5,253	920	73,725	11,415
2005-06	41,367	9,765	27,173	1,775	5,255	1,000	73,795	12,540
2006-07	41,362	8,545	26,611	1,725	5,255	965	73,228	11,235
<b>Average</b>	<b>41,567.42</b>	<b>7,176.00</b>	<b>26,937.83</b>	<b>1,841.17</b>	<b>5,343.83</b>	<b>840.42</b>	<b>73,849.08</b>	<b>9,857.58</b>

*Source: Spices Statistics, Spices Board, Cochin*

### Small cardamom

Cardamom is the dried fruit of an herbaceous perennial and in India it is mainly grown in Kerala, Tamil Nadu and Karnataka and on the shady slopes of the Western Ghats. Warm humid climate, loamy soil rich in organic matter, distributed rainfall and special cultivation and processing methods all combine to make Indian cardamom truly unique in aroma, flavour, size and colour.

Although cardamom is little valued in Western countries, it is among the oldest spices and very popular in Sri Lanka, India and Iran and in Saudi Arabia as an essential ingredient to Arab coffee (60 per cent of the world production is exported to Arab countries). Yet, not all cardamom is consumed for coffee in Arab countries; it is also used for cookery. Most of the Arab, Indian and Sri Lankan cuisine add cardamom to their non-vegetarian and rice preparations like meat and rice dishes.

Cardamom is also a popular spice in Northern Africa and Eastern Africa, where population is predomi-

nantly Arabic. Whereas in Europe, cardamom is unknown, but may appear in some cookie recipes. History also finds a mention of cardamom in the cuisine during the Mughal reign. In Sri Lanka, the pods are added to fiery beef or chicken curries to have the extravagant aroma of cardamom and its flavour.

### Large cardamom

In India, black cardamom is felt superior for spicy and rustic dishes and can be used in liberal amounts. Black cardamoms enhance and intensify the taste of other ingredients if used after crushing a bit. There are many distinct species of black cardamom, ranging in pod size from 2 cm (*A. subulatum*, found in Nepal to North Vietnam) to more than 5 cm (*A. medium*, China), with different tastes. Large cardamom is the dried fruit of a perennial herbaceous plant and its quality characteristics are different from that of small cardamom.

The fruit is four to six times the size of small cardamom. It has a taste, flavour and aroma that stimulate the taste buds when used in rice

and meat preparations, besides a wide range of beverages and sweets. In India, it is a popular ingredient of *pan masala*.

India, being the largest producer of black cardamom, enjoys the monopoly in this spice. The main production centres are the sub-Himalayan ranges spread across Sikkim and Darjeeling district of West Bengal. Ramsey, Golsey and Sawany are the names that register instant appeal worldwide. Cardamom oil is a precious ingredient in food preparations, perfumery, health foods, medicines and beverages.

### Grades

Among the grades are greens (green pods artificially dried in kilns or hot-rooms), sun-dried pods (light coloured, dried in the sun), decorticated (hulled seeds) and bleached (pods that have been chemically bleached by fuming with burning sulfur or by hydrogen peroxide). Greens and sun-dried pods account for about 85 per cent of the world export market in cardamom, seeds for about 10 per cent and bleached for the balance.

Table II  
**State-wise Area and Production of Large Cardamom  
 in India During 2001-02 to 2006-07**

(Area in hectares and production in million tonnes)

Year/ states	Sikkim		West Bengal		Total	
	Area	Production	Area	Production	Area	Production
2001-02	20,589	3,987	2,997	629	23,586	4,616
2002-03	26,734	4,650	3,274	650	30,008	5,300
2003-04	26,734	5,401	3,305	753	30,039	6,154
2004-05	26,734	4,980	3,305	793	30,039	5,773
2005-06	26,734	4,477	3,305	708	30,039	5,185
2006-07	26,734	3,833	3,305	470	30,039	4,303
<b>Average</b>	<b>25,709.83</b>	<b>4,554.67</b>	<b>3,248.50</b>	<b>667.17</b>	<b>28,958.33</b>	<b>5,221.83</b>

Source: Spices Statistics, Spices Board, Cochin

### Economic importance

As mentioned earlier, 60 per cent of the world production is exported to Arab (South West Asia and North Africa) countries where it is largely used to prepare cardamom-flavoured coffee 'Gahwa.' Cardamom is a popular spice used for cooking in Asian countries. It is a popular spice in other continents of the world too. It is also used for its medicinal properties, both in allopathy and *ayurveda*.

### Cardamom and its uses

Both the black and green forms of cardamom are used for flavouring in food and drink, as cooking spices and as a medicine. *Elettaria cardamomum* (the usual type of cardamom) is used as a spice, a masticatory and in medicine; it is also smoked sometimes. It is used as a food plant by the larva of the moth *Endoclyta hosei*.

Black cardamom has a distinctly more astringent aroma, though not bitter, with coolness similar to mint, though with a different aroma. It is a common ingredient in Indian cooking, and is often used in baking in Nordic countries, such as in the Finnish sweet-bread pulla. It is one of the most expensive spices by weight, and little is needed to impart the flavour.

Cardamom is best stored in pod form, because once the seeds are exposed or ground, they quickly lose their flavour. However, high-quality ground cardamom is often more readily (and cheaply) available, and is an acceptable substitute. In the Middle East, green cardamom powder is used as a spice for sweet dishes as well as traditional flavouring in coffee and tea. It is also used to some extent in savoury dishes.

In Arabic, cardamom is called *al-Hayl*. In Persian, it is called *hel*.

In some Middle Eastern countries, coffee and cardamom are often ground in a wooden mortar and cooked together in a 'mihbaz'—an oven using wood or gas, to produce mixtures that are as much as forty per cent of cardamom.

In South Asia, green cardamom is often used in traditional Indian sweets and in tea. Black cardamom is sometimes used in *garam masala* for curries. It is occasionally used as a garnish in *basmati* rice and other dishes. It is often referred to as fat cardamom due to its size. Individual seeds are sometimes chewed, in much the same way as chewing gum.

In Northern Europe, cardamom is commonly used in sweet foods, pastries or cakes. It has also been known to be used for gin making.

### Traditional medicine

In South Asia, green cardamom is broadly used to treat infections in teeth and gums, and to prevent and treat throat troubles, congestion of the lungs and pulmonary tuberculosis, inflammation of eyelids and also digestive disorders. It is also reportedly used as an antidote for both snake and scorpion venom bite. *Amomum* is used both as a spice and as an ingredient in traditional medicinal systems of China, India, Korea, Japan and Vietnam. Species in the genus *Amomum* are also used in traditional Indian medicine.

### Global scenario

Guatemala, India, Tanzania, Sri Lanka, El Salvador, Vietnam, Laos, Cambodia and Papua New Guinea are the major cardamom growing countries. Guatemala is the world's largest producer and exporter of cardamom. It is estimated that this country produced 25,000 million tonnes of cardamom in 2007, which resulted in sales of \$140 million. It exports around 80 per cent of its production. Saudi Arabia buys around 90 per cent of the quantity exported and it is the largest consumer, followed by Kuwait.

Guatemala's production was around 800 tonnes in the early 1970s and the country's share in global exports was less than 30 per cent. However, by early 1980s the country was able to increase its production by around five times to 4300 tonnes and its share in global exports rose to 60 per cent.

Guatemalan cardamom competes with Indian cardamom on price front. Guatemala was able to achieve this through area expansion, yield improvement and reduction in cost of production. The Guatemalan cardamom is also more similar to the alleppey-green variety of India, than other varieties. Such advantages have helped Guatemalan exporters to penetrate into the prime markets

Table III

**Major Country-wise Export of Small Cardamom from India During 2002-03 to 2006-07**
*(Quantity in million tonnes and value in Rs lakh)*

Major country	2002-03		2003-04		2004-05		2005-06		2006-07	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Saudi Arabia	347.7	2,430.2	408	2,083.3	286.1	1,105.1	511.2	1,676.1	407.2	1,573.1
Japan	242.7	1,657.6	218.8	959.9	250.5	825.1	225.4	584	36.4	91.3
UK	4	42.7	10.3	61.5	13.3	68.8	19.7	93.2	19.3	58.7
Kuwait	13.4	80	24.8	121.9	8.3	30	10	27.1	14.3	47.9
Malaysia	12.9	74.8	31.2	138.7	28.7	105.9	34.7	96.6	20	44.4
South Africa	4	23.7	8.6	34	5.1	17.3	2.1	6.2	13.9	38
Oman	5	41.4	5.8	33.3	0.4	2.3	2.2	15	6.8	27.4
Baharain	6.1	40.4	4	17.1	7.5	25.5	8.9	24.1	7.6	23.6
UAE	—	—	14	77.2	2.2	9.2	8	32.5	3.3	16.7
Greece	9.9	62.7	6.5	25.3	6.7	23	4.1	12	6	15.8
USA	4.4	38.5	2.4	20.9	5.1	23.3	5.7	21.5	4.2	14.9
New Zealand	0.3	2.8	0.3	1.3	0.1	0.4	0.2	0.6	2.1	9.5
Italy	4.7	26.4	4.9	20.3	1.7	5.6	1.8	5.3	4.7	9.4
Others	20.1	152.5	16.6	94.6	23.2	106.7	27.6	81.3	63.8	215.8
<b>Total</b>	<b>681.9</b>	<b>4,707.4</b>	<b>756.8</b>	<b>3,691.7</b>	<b>642.5</b>	<b>2,362.4</b>	<b>862.9</b>	<b>2,682.1</b>	<b>650</b>	<b>2,236</b>

*Source: Spices Statistics, Spices Board, Cochin*

of Indian cardamom. Now, India has lost its once dominant position in the world market. Recently, Nepal has been the world's largest producer of large cardamom. And Guatemala has become the world's largest producer and exporter of cardamom, with exports totalling \$137.2 million for 2007.

### Major cardamom producing states in India

Table I shows the area under small cardamom cultivation and quantity of production in major producing states. Kerala, Karnataka and Tamil Nadu grow small cardamom. On an average, India's annual production of small cardamom was 9857.58 tonnes from 73,849.08 hectares during the years 1995-96 to 2006-07.

In 2006-07, Kerala had more area under small cardamom cultivation (41,362 hectares), followed by Karnataka (2611 hectares) and Tamil Nadu (965 hectares). In terms of small cardamom production too,

Kerala ranked first (with 8545 million tonnes), followed by Karnataka (1725 million tonnes) and Tamil Nadu (965 million tonnes). Kerala accounts for 70 per cent of the cultivation and production followed by Karnataka (20 per cent) and Tamil Nadu (10 per cent).

In 2007-08, India is estimated to have produced 11,384 million tonnes of small cardamom from 82,320 hectares.

The area under cardamom has been coming down over the years. However, the production has not fallen as a result of the improvement in yield. Still, the yield in India is below the yield reported from Guatemala.

Table II shows the area under large cardamom cultivation and quantity of production in major producing states. Sikkim and West Bengal grow large cardamom. India, on an average, produced 5221.83 million tonnes of large cardamom from 28,958.33 hectares during the years 2001-02 to 2006-07. In 2006-07, Sikkim had the

maximum area under large cardamom cultivation (26,734 hectares) followed by West Bengal (3305 hectares). In terms of large cardamom production too, Sikkim ranked first (with 3833 million tonnes) followed by West Bengal (470 million tonnes).

A cardamom plant starts yielding the produce economically from the third year of planting and it continues for 8-10 years. The total life span of cardamom plant is 15-20 years; however, pseudo-stem is biannual in nature. The harvesting period of small cardamom extends from September to January, with the peak arrival from October to November. In Guatemala, the harvesting is done in almost the same period.

The harvesting in India begins from September and is repeated in intervals of 30-40 days, five to six times. Irrigation/rains after a plucking ensures the development of flowers again, from which seeds redevelop. Thus the cardamom plant requires a continuous spell of rain interspersed with periods of good

Table IV

**Major Country-wise Export of Large Cardamom from India During 2002-03 to 2006-07**

(Quantity in million tonnes and value in Rs lakh)

Major country	2002-03		2003-04		2004-05		2005-06		2006-07	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Pakistan	899.9	1,199.2	530.7	725.7	628.2	695.3	760.1	759.7	1,167	1,220.3
UAE	251.2	419.9	63.9	66.9	109.2	121.6	84.6	88.4	146.5	195.4
UK	26.6	18.4	69.3	114.9	79.9	115.5	103.6	123.7	81.2	125.6
USA	48.5	64.3	22.8	16.9	34.8	47.9	22.7	42.6	17.8	38.6
Canada	4.5	3.3	4.4	7.4	12.8	22.5	5.5	8.6	17.4	23.1
South Africa	21.3	47.7	3.6	4.9	11.5	18.3	30.9	52.2	12.4	17.8
Saudi Arabia	2	3.8	1.2	2.3	15.1	19.8	0.3	0.4	8.8	11.1
Kuwait	4.1	7.8	2	2.3	10.2	17.5	0.4	0.5	5	8.1
Australia	2.9	3.7	9.8	18.3	4.5	7.8	3.4	5.6	3.5	7.4
Others	188.4	289	216.1	275.1	47.6	63.8	34.4	73	40.4	47.7
<b>Total</b>	<b>1,449.6</b>	<b>2,057.1</b>	<b>923.8</b>	<b>1,234.5</b>	<b>953.8</b>	<b>1,129.8</b>	<b>1,046.1</b>	<b>1,154.7</b>	<b>1,500</b>	<b>1,695</b>

Source: Spices Statistics, Spices Board, Cochin

sunshine. The plant is also very susceptible to pests and diseases. As a result, the output fluctuates from year to year.

### Cardamom exports

India was the world's largest exporter of cardamom till 1985. Now, the country exports less than 10 per cent of the total production. The increased competition from low-cost counterparts and improvement in domestic consumption have been the reasons for low exports from the country. The exports from India are good only in those years when the production in Guatemala is affected by some weather problems.

The exports of cardamom (small and large) from India to major countries are shown in Tables III and IV, respectively. In 2006-07, India exported 650 million tonnes of small cardamom valued at Rs 2236 lakh, and 1500 million tonnes of large cardamom valued at Rs 1695 lakh. Saudi Arabia, Japan, the United Kingdom and the United Arab Emirates were the major importers of Indian cardamom. Alleppey green is the major grade of cardamom exported from India.

It is considered to be the best grade in the world.

The exports of value-added products are showing an improvement. Cardamom oil and cardamom oleoresins are the major value-added products of cardamom. European Union countries like Germany, the Netherlands and the UK are the major importers of these value-added products from the sub-continent.

### Consumption

Despite the fall in exports, the Indian cardamom sector is still thriving due to increase in the domestic consumption. The improvement in the living standards and increase in the disposable income of Indians have been largely responsible for this increase in domestic consumption. Increase in consumption of *pan* has increased the demand from *pan* manufacturers. Currently, *pan* makers are the single largest consumers of cardamom in the country.

### Market structure

Cardamom is mostly sold at auction centres. The Spices Board

licenses traders and they participate at the different marketing centres for auction. The auctioneers licensed to conduct auctions in India are:

1. Cardamom Processing Marketing Co-operative Society Ltd (CPMCS), Kumily, Kerala
2. Cardamom Marketing Corporation, Vandanmedu, Kerala
3. Mas Enterprises (Mas), Vandanmedu, Kerala
4. Cardamom Planters Association (CPA), Bodinayakanur
5. Kerala Cardamom Processing Marketing Company Ltd (KCPML), Spice House, Thekkady, Kerala
6. Spices Trading Corporation Ltd, Bodinayakanur
7. Indian Cardamom Marketing Corporation, Kumbum
8. Joseph Coffee Curing Works, Pattiveeran Patti

Of these, CPMCS, CMC and MAS Enterprises are the major auctioneers. In 2006-07, it is estimated that the total season arrivals were 6792 tonnes, of which 5928.76 tonnes were sold at Rs 4883.55 crore. It is estimated that CMC, MAS and CPMCS sold 131, 78 and 84 tonnes, respectively.

The farmers bring in their produce to the auction centres, where

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it is cleaned, graded and packed in polythene bags and stored in the warehouses of the auction centres. After the auctions, the traders who buy the produce bring it to the trading centres in Kochi, from where it is transported to the upcountry markets or exported.

### Price volatility

Cardamom displays huge volatility in pricing as it is affected by domestic and international supply-demand patterns. While the demand has been rising, the supply is highly volatile. The major importing countries are the Arabian nations and the demand peaks during the Ramzaan fasting period. Usually, the crop from India and Guatemala arrives during this period. The crop is highly susceptible to pests, diseases and the vagaries of the monsoon. This also has a strong influence on the prices.

### Factors influencing cardamom markets

1. Fresh cardamom is green and has a characteristic aroma. Freshness, colour, aroma and size, in addition to the current supply-demand scenario, are the major factors that influence cardamom prices

2. Cardamom is usually stored in cooler areas to preserve its inherent properties

3. Indian cardamom, especially alleppey green, is of premium quality as against all other international grades. However, the production and



Cardamom plantation

export from Guatemala have profound impact on pricing of Indian cardamom

4. Weather and annual production

5. Production in other countries, particularly Guatemala

6. Year-ending stocks and stocks-to-consumption ratio

7. Time of arrival of new crop in the market

### To sum up

Cardamom, the queen of spices, is one of the most exotic and highly prized spices. Cardamom plants normally start bearing fruits two years after planting. There are three distinctive types of cardamom grown in India, viz, Malabar, Mysore and Ceylon. The two major commercial varieties of small cardamom in the world are the Malabar and the Guatemalan. Indian cardamom is slightly smaller, but more aromatic.

Guatemala, India, Tanzania, Sri Lanka, El Salvador, Vietnam, Laos, Cambodia and Papua New Guinea

are the major cardamom growing countries. Saudi Arabia is the single largest importer of cardamom, distantly followed by Kuwait. India roughly exports 5 to 8 per cent of its total production. Saudi Arabia accounts for 42 per cent and Japan 39 per cent of India's exports. Export of value-added products like cardamom oil and cardamom oleoresins are increasing to Germany, the Netherlands and the UK.

Important markets for cardamom within the country are Vandanmendu, Bodinayakanur, Kumily, Thekady, Kumbum and Pattiveeran Patti in Kerala. India can reclaim the first place in cardamom trade soon, provided the Indian government pays more attention to cardamom cultivation, marketing activities, export promotional activities and minimum support price to farmers.

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Table V

### World's Cardamom Consumption

Country	Per cent consumption of world
West Asia	60
Scandinavia	16
Other EU countries	14
USA	2.5
Japan	3
Rest	4.5