

Subject: Food Technology

Production of Courseware
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Paper No. : 10 Technology of Spices and Condiments

Module : 18 Cardamom: Grading



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Description of Module	
Subject Name	Food Technology
Paper Name	10 Technology of Spices and Condiments
Module Name/Title	Cardamom: Grading
Module Id	
Pre-requisites	
Objectives	
Keywords	

 **Pathshala**
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A Gateway to All Post Graduate Courses

18.1 Cardamom: grading

Cardamom capsules should be sorted into size classes and different size sieves will allow different grades to be separated as well as the separation of split and insect infested capsules. Cardamom is graded on the basis of color, clipping (i.e. pods with the tips trimmed), size, whether bleached or unbleached, the proportion of extraneous matter present, and product origin. Grading is carried out in accordance with a relevant national standard, if available, such as those used by Indian producers. In addition, ISO standard 882-1 provides some general guidelines on the grading, handling and packing of cardamom. In the US market, the American Spice Trade Association (ASTA) adopted the original Cleanliness Specifications for spices, seeds and herbs in 1969. These have been revised numerous times, the latest occurring in 2007. The ASTA Cleanliness Specifications were designed to meet or exceed the United States Food and Drug Administration (FDA) Defect Action Levels (DAL). The DAL refers to Title 21, Code of Federal Regulations, Part 110.110 that allows the Food and Drug Administration (FDA) to establish maximum levels of natural or unavoidable defects in foods for human use that present no health hazard.

Table: US Cleanliness



Specifications for Cardamom

Whole insects dead	Excreta Mammalian	Excreta Other	Mold	Insect defiled/ infested	Extraneous foreign Matter
By count	By mg./lb	By mg./lb	% by wt.	% by wgt.	% by wgt.

4	3	1	1	1	0.5
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Source: American Spice Trade Association, Revised 2007

18.1.1 Common Grades

In general, the weight in grams per liter and the color are decisive in determining quality. The Proportion of burst fruit pods ("open pods") also determines quality, as do color (green or yellow) and drying method (mechanical or sun).

The following definitions refer to common Indian Grades:

- **Bold** is a popular export grade where 90 percent of the cardamom pods have a diameter of 6.5mm or above. The product has a mature green coloration with a weight in grams per liter of 415 grams.
- **Super Bold** is a high quality variety where all pods should have a diameter of 8mm or above. The product has a mature green coloration with a weight per liter of over 450 grams.
- **Extra Bold** is also a popular export grade where all pods will have a diameter of 7 mm or above. The product has a mature green coloration with a weight in grams per liter of 435 grams.
- **Bulk** is cardamom that has not been graded. As such, it contains all sizes, both mature and immature capsules, as well as black, yellow and/or split cardamom.
- **Small** is a grade with pods that measure between 5.5 mm and 6.5 mm in diameter. The weight in grams per liter is approximately 385 grams.
- **Open/Splits** is lower quality cardamom where over 60 percent of the pods are "open" (i.e. seeds exposed) and the color of the pods may be greenish/pale yellow. All pods will be mature with a diameter of 6.5 mm or above
- **Seeds** are the black/brown seeds of the cardamom pods (i.e. husk fully removed). The weight in grams per liter is typically 550 to 600 grams.
- **Fruit** are generally over matured pods with slight yellowish in color. The weight in grams per liter is 425 grams or above.

The following definitions refer to common Guatemalan Grades:

- **Jumbo Green** are extra-large green small cardamom pods.
- **Imperial Best Green** are large green pods.
- **Fancy Green Extra** are extra green pods.
- **Fancy Green** are medium sized green pods.
- **Imperial Mixed Green** are large pale green pods.

- **Mixed Green** are pods of assorted colors
- **Mixed Green Split** are medium sized open green pods.
- **Yellow Mixed** are medium/large closed yellow pods
- **MYQ** or Mixed Yellow Quality is medium sized light-brown cardamom for grinding.
- **Seeds** are cardamom with the husk removed.

18.1.2 Standard Export Grades:

AGEB Alleppey Green Extra Bold Size 7mm above wt/lit 435 gms

AGB Alleppey Green Bold Size 6mm above wt/lit 415gms

AGS Alleppey Green Superior Size 5mm above wt/lit 385 gms AGS-1

Alleppey Green Shipment Green-1 Size 4mm above wt/lit 350gms

AGS-2 Alleppey Green Shipment Green-2 Size 4mm above wt/lit 320gms

Internationally accepted and most commercially imported varieties of Cardamom are Malabar Cardamom, Sri Lankan Cardamom and Cambodian Cardamom.

- Grade of Guatemala Cardamom**
- Jumbo Green** (extra large green)
- Imperial Best Green** (large green)
- Fancy Green Extra** (Extra green)
- Fancy Green** (Medium size green)
- Imperial Mixed Green** (large pale green)
- Mixed green** (assorted colors)
- Mixed green split** (medium size open green pods)
- Yellow mixed** (yellow medium/large close pods)
- MYQ mixed yellow quality** (medium light brown color for grinding)
- Cardamom seeds** (decorticated)

Grade Differentiation of Whole Small Indian Cardamom

No	Grade	Color	Diameter	Weight	Notes
1	Bold	Greenish	6.5mm	415gm	Popular export
2	Superbold	Matured greenish	8mm	450gm	Special, rare
3	Extra bold	Matured greenish	7mm	435gm	Best in market

4	Bulk				To be graded
5	Small	Black	5.5-6.5mm	385gm	Cleaned, removed dust
6	Open/splits	Greenish pale/yellow	6.5mm or above		
7	Seed	Black/brown		550-600gm	Husk removed
8	Fruit	Slight yellowish		425gm	Over matured