



Quality Requirements for Large Cardamom Capsules

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Large cardamom is one of the important spices exported from India. Large cardamom capsules are the dried, nearly ripe to ripe fruits of *Amomum subulatum* Roxb. The capsules have a colour ranging from brown to pink and are ovoid and more or less triangular shaped with a ribbed appearance. The capsules may be clipped and their pedicles removed. The capsules shall be well formed with sound seeds inside. Seeds are obtained by decortications of capsules of large cardamom. The aim of this article is to highlight the requirements for good market quality capsules of large cardamom and to help farmers to offer quality product which meet consumer expectations and higher market value.

Introduction

Large cardamom (*Amomum subulatum* Roxb.) belongs to the family Zingiberaceae under the order Scitaminae. It is the main cash crop of Sikkim and Darjeeling district of West Bengal. The indication of time of harvest is when the seeds of top most capsules turn brown. As soon as the said colour appears and to enhance maturity bearing tillers are cut at a height of 30-40 cm from ground and left for another 10-15 days for full maturity. The spikes are harvested by using special knives known as "Elaichichhuri". The harvested spikes are heaped and fresh capsules separated (Fig.1) and dried. The cured capsules are rubbed on wire mesh for cleaning and removal of calyx (tail). Traditionally cardamom is cured in *Bhatti*, where capsules are dried by direct heating. Under this system the cardamom comes in direct contact with smoke which turns the capsules to dark brown or black with smoky smell. Improved curing techniques are presently available in which cardamom is processed to give quality and appearance. One such method is ICRI Improved Bhatti curing system developed by Indian Cardamom Research Institute, Regional Station, Tadong, Gangtok, Sikkim where cardamom is dried through indirect heating. The system is available in 200 & 400 kg (fresh capsules) capacities. The bhatti has been popularized by Spices Board, Regional Office at Gangtok and Zonal offices at Tadong, Mangan, Jorethang and Kalimpong through subsidized development scheme.

Quality Requirements

Following are the requirements for quality capsules of large cardamom:

Curing: Curing should be done till moisture content of the produce is brought down to 10-12 % level & gives metallic sound while shuffling (Fig.2).

Odour and taste: The odour of large cardamom capsules and seeds shall be characteristic and fresh. They shall be free from foreign odour and taste.

Free from insects and moulds: Large cardamom capsules and seeds shall be free from live insects and moulds, and shall be practically free from dead insects, insect fragments and rodent contamination (at least from normal visible view). Insect damaged capsules and seeds are to be separated.

Free from extraneous matter: Large cardamom capsules and seeds shall be free from visible dirt or dust.

Free from empty and malformed capsules: The empty (i.e. without any seeds) or malformed capsules, or those which are scantily filled with seeds are to be removed.

Free from immature and shriveled capsules: The immature and shriveled capsules (which are not fully developed) are to be removed.

Proper packing and storage: Large cardamom capsules and seeds shall be packed in clean and sound containers made of a material which does not affect the product but which protects it from the ingress of moisture and loss of volatile matter. Large cardamom capsules are to be well protected from the sun, rain and excessive heat. The store should be dry, free from objectionable odours and proofed against the entry of insects. The ventilation should be controlled as so to ensure good ventilation during dry weather and to be fully closed during wet weather. The packages should be handled and transported in such a way that they are protected from rain, from the sun or other sources of excessive heat, from objectionable odours and from any other contamination.

Conclusion

Quality is the most potent weapon in facing completion from emerging countries. Quality is a measure of how much the end-user values a product. Product quality is very important to growers because it determines marketable yield and can affect price. Large cardamom capsules placed on the market should be hygiene and safety. Consumers are generally willing to spend more money on products of higher quality. Therefore large cardamom farmers should always base their marketing activities on the fact that consumers buy product mainly for their high quality.



Fig. 1 Fresh capsules of large cardamom before curing



Fig. 2 Dried capsules of large cardamom after curing