

Elettaria cardamomum (L.) Maton

Common name: Cardamom

Sanskrit name: Ela

Malayalam names: Bavula, Ealakkaya, Elam, Elattari

Tamil names: Aelakkaai, Elam

Hindi name: Elachi

Description:

Herbs, rhizome branched, thick; leafy shoots to 2 m high, tufted. Leaves bifarious, to 60 x 10 cm, elliptic-lanceolate, acute at both ends. Flowers in prostrate or erect, 30-50 cm long, panicles from the rhizome; bracts 3-4 cm long, supporting 2-7 flowers. Calyx tubular, 1 cm long, split on one side. Corolla white, tube equal to the calyx, lobes unequal, to 2 cm long, oblong. Labellum 1 x 0.5 cm, obovate, white with red lines. Stamen 1, filaments short; anther cells parallel, shortly spurred; staminodes short. Ovary 3-celled, ovules many, style filiform, stigma funnel shaped. Capsule 8-13 x 5-8 mm, ellipsoid, striate; seeds many, angular, fragrant.

Distribution: The native range is South West India. Now cultivated in many tropical countries.

Uses:

In Asia, it can add a lingering sparkle to every kind of dishes both traditional and modern. In Scandinavian countries it is used in baked goods and confectionaries. In Europe and North America it is an ingredient in curry powder and in some sausages products. Cardamom oil and oleoresin has applications in flavoring processed foods, cordials, and liquors and in perfumery and in Ayurvedic medicines. Its use is also recommended in the treatment of disease of oral cavity. It also finds its application in the treatment of nausea, vomiting, dry cough and external piles.

The major use is for the preparation of 'gahwa' – a strong cardamom coffee concoction which is a symbol for hospitality among Arabs. Apart from this cardamom is widely used as a flavouring material as whole and ground form.

Cultivation:

Climate Requirements

Cardamom is grown in areas where the annual rainfall ranges from 1500-4000 mm. The temperature should be around 10-35⁰ Celsius with good rainfall distribution. Summer showers during the months of February to April are crucial for a good crop.

Soil Requirements

Cardamom is grown in deep black loam soil with high humus content. Loam soils are generally acidic with a pH level of 5.5 to 6.5. This type of soil is found in forest areas that are best suited for cardamom cultivation. However, it can also be grown on clay loams, laterite soils, and rich black soil that have good drainage.

Land Preparation

During April and May, pits are dug and filled with a mixture of topsoil and compost. Well-decomposed farm manure can be used in place of compost as well. Contour terraces are used in sloppy lands with a pit dug up along the contour. Close planting is advised when planting along the contour.

Propagation

Propagation through suckers is the most used method for cardamom plants. Alternative methods of propagation include tissue culture and the production of planting materials from the seeds.

Planting

Planting starts during the rainy season, around June. Seedlings are planted into the collar region for healthier growth. The most ideal time to plant the seedlings is on a cloudy day with little rainfall. In Tamil Nadu and Kerala, the seedlings are planted between March and May. The seedlings are planted at a spacing of 20 x 20 cm and mulched immediately after.

Fertilizers

A dose of 75kg nitrogen, 75kg phosphorus, and 150g of potash per hectare is advised for cardamom cultivation. A thin layer of soil should be applied after applying the fertilizer. The fertilizer should be used in two doses. First in May to help in the growth of suckers and capsules. And the second during late September to help grow the panicles and suckers. Apply only half dose of fertilizer during the first year and a full dose from the second year onwards.

Irrigation

Irrigate the crops during the dry spells of summer to help with the initiation of panicles, flowering, and fruiting. Until the monsoon starts, the cardamom crop should be irrigated every 10 to 15 days.

Harvesting

Cardamom usually starts bearing after two years of planting. The peak period of harvesting is between October and November in most places. Plucking of fruits is done after every 15 to 25 days.

Cleaning

The fruits should be cleaned before processing. The first stage is to remove dust and dirt using a winnowing basket. Small machines are available for cleaning, but they are often not cost effective. After winnowing the capsules are washed in clean water.

Pre-treatment

After washing, the stalks are removed from the cardamom capsules by hand. The fruits can be soaked in a solution of sodium bicarbonate (2-5%) for ten minutes to help retain the green colour. This is an optional step. A 2% solution of sodium bicarbonate is prepared by dissolving 20g (about 4 tea spoons) of sodium bicarbonate in 1 litre of water.

Drying

This is the most important part of the process as it affects the quality of the final product. It is important to dry the cardamom capsules as soon after harvest as possible to prevent the loss of flavour. It is also important that the drying process is as short as possible so that mould does not grow on the capsules and the bright green colour is retained. The drying temperature should not be above 50°C as this affects the colour and delicate flavour of the final product. The moisture content of a fresh cardamom capsule is about 85%. This needs to be reduced to 10% in the dried product so the cardamom capsules can be stored. If the drying period is too long mould can start to grow on the cardamom. There are several options available to the smallscale processor, depending upon the size of the business and the local weather conditions at the time of processing. Each method has different advantages and disadvantages.

- Sun drying.
- Solar drying.
- Wood-fired dryer.
- Electric or gas dryer.
- Humidity-controlled drying.

Grading

Cardamom is graded by colour and size. The deeper the green colour and the larger the capsule size, the higher the grade. All grading is done by hand. The Indian grading system for cardamom capsules separates them into different types:

- Alleppey Green Cardamom
- Coorg Green Cardamom
- Bleached or Half-Bleached Cardamom
- Bleached White Cardamom
- Mixed Cardamom

