

# PROCESSING OF CLOVES

Clove (*Eugenia Caryophyllus*)

Main countries of production:

Optimal Climate:

Rainfall:

Elevation:

can grow above 900m

Tanzania, Indonesia, Sri Lanka

15-30°C, best in a maritime climate

1750-2500mm, with a dry season

Best below 300m above sea level but

## Agricultural and botanical aspects

The clove tree is a small evergreen tree that grows to a height of 20m. The young leaves are bright pink and change to a greenish yellow and harden. The flowers develop in clusters of three to ten groups (of three flowers).

## Harvesting

When the calyx (outer green leaves) of the flowers change from olive green to yellow pink, and before the petals fall to expose the stamens, the flower buds should be harvested. Clusters of flowers are harvested together by hand. One has to be careful not to over-pick the tree or to remove branches as this reduces future crop yields.

## Drying

The buds are detached from the stalks by holding a cluster in one hand and pressing it against the palm of the other hand and twisting slowly. The hands of the processor and the room in which the work is done have to be very clean. The buds and the stems are separated and dried separately. The stems can be used for oil distillation.

The buds have to be dried quickly or they will start to ferment. They are usually dried in the sun on mats. Raking the cloves is essential to produce an even colour.

Drying usually takes four to five days. The buds are dried to 8-10% moisture content (wet basis) when the buds will snap cleanly.

Badly dried cloves are pale brown and classified as 'Khuker'.

## Winnowing

The dried buds are winnowed using a traditional winnowing basket to remove dust and extraneous matter.

## Uses

The main uses for cloves are:

- To flavour 'Kretek' cigarettes in Indonesia.
- To flavour foods and drink.
- To produce essential oil which is used in dentistry and as a cleaning agent in microscopy.

## Standards

US Government Standards and American Spice Trade Association Standards

Moisture % (wet basis)	<8
Extraneous matter % (by weight)	<1
Mouldy buds %	<1

technical brief