

## Module -21: Cardamom products

### 21.1 Cardamom products

**21.1.1 Powder or whole seed:** Whole seeds will be crushed when used, or ground to powder. Pre-processing is quite simple and costs little, but the product retains its flavour for a relatively short period of time (around one year). Cardamom in seed form is also relatively commonly traded, and the form of commodity for which most historical data is available



### 21.2 Value added products:

- Spice drops: 100% natural cardamom extracts from raw spices. Cardamom spice in the form of liquid retains all the richness of pure and natural spice
- Essential oil: the volatile components are present in most of cardamom and provide the characteristic aroma of the cardamom, obtained by steam distillation of crushed fruits of cardamom
- Oleoresin: the true essence of the cardamom and can replace whole/ground spices without impairing any flavour and aroma characteristic. Oleoresins are obtained from cardamom by extraction of crushed fruits with a non-aqueous solvent followed by removal of the solvent by evaporation.
- Value added products: have a longer shelf life (up to 2 years), with easy storage and beautiful packaging, and still retain their pure and true flavour; but incur additional costs and relative complexity of equipment application for extraction.
- Cardamom essential oil: Cardamom oil is extracted from *Elettaria cardomomum* (also known as *Elettaria cardomomum* var. *cardomomum*) of the Zingiberaceae family and is also known as cardamomi, cardomum and Mysore cardomom.

### 21.3 Oil properties

Cardamom oil is sweet, spicy and almost balsamic in fragrance, is clear to pale yellow in color and slightly watery in viscosity.

#### 21.3.1 Origin of cardamom oil

A perennial, reed-like herb, Cardamom grows wild and is cultivated in India and Ceylon. It grows up to 4 meters (13 feet) high and has long, green silky blades, small yellowy flowers with a violet tip and a large fleshy rhizome, similar to ginger. Oblong gray fruits follow the flowers, each containing many seeds. Cardamom was well known in ancient times and the Egyptians used it in perfumes and incense and chewed it to whiten their teeth, while the Romans used it for their stomachs when they over-indulged. The Arabs ground it to use their coffee and it is an important ingredient in Asian cooking. Valerius Cordus first distilled the essential oil in 1544 after the Portuguese discovered the East.

### **21.3.2 Extraction**

The essential oil of Cardamom is extracted by steam distillation from the seeds of the fruit gathered just before they are ripe. The yield is 1-5 %.

### **21.3.3 Chemical composition**

The main chemical components of cardamom oil are  $\alpha$ -pinene,  $\beta$ -pinene, sabinene, myrcene,  $\alpha$ -phellandrene, limonene, 1, 8-cineole,  $\gamma$ -terpinene, p-cymene, terpinolene, linalool, linalyl acetate, terpinen-4-ol,  $\alpha$ -terpineol,  $\alpha$ -terpineol acetate, citronellol, nerol, geraniol, methyl eugenol and trans-nerolidol.

### **21.3.4 Precautions**

Cardamom oil is non-toxic and non-irritant as well as non-sensitizing.

### **21.3.5 Therapeutic properties**

The therapeutic properties of cardamom oil are antiseptic, antispasmodic, carminative, cephalic, digestive, diuretic, expectorant, stimulant, stomachic and tonic.

### **21.3.6 Uses**

Cardamom oil is particularly helpful for the digestive system. It works as a laxative and soothes colic, wind, dyspepsia and nausea - even nausea in pregnancy. It warms the stomach and helps with heartburn. When feeling weak and mentally fatigued, cardamom oil can help with its refreshing and uplifting effect. Cardamom oils' expectorant properties help clear coughs. It is a well-known remedy for impotence and low sexual response.

### **21.3.7 Burners and vaporizers**

In vapor therapy cardamom oil can be useful for the digestive system, for coughs and fatigue.

### **21.3.8 Blended oil or in the bath**

As a massage oil or can assist with digestive system, tonic. It is excellent in the bath, stimulated



diluted in the bath, cardamom oil coughs and be used as a general leaving you feeling refreshed and

### 21.3.9 Summary

Cardamom oil is most beneficial to the digestive system, but can also help with the treatment of coughs, and a general feeling of not feeling that well.

### 21.4 Applications

The oleoresins and spice oils are preferred because of their microbiological advantages, uniformity in flavour and pungency, easy to store and transport. They have several applications like in the preparation of beverages, soup powders, confectionary, curries, noodles, sauces, canned meat etc.

### SUGGESTED READING:

- Muthuswamy A. and M.R Sudharshan.( 2007).Cardamom,ginger and turmeric. *Soils, plant growth and crop production*.
- Douglas. M. Heyes J. and B. Smallfield. (2005). Herbs, spices and essential oils. New Zealand Institute for Crop and Food Research Inc. pp 2-27.

