Cinnamon and Cassia

The genus *Cinnamomum*

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5 Harvesting, Processing, and Quality Assessment of Cinnamon Products

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Introduction

Cinnamon plants are grown as bushes. When plants are two years of age they typically measure about 2 m in height and about 8–12 cm at the base. At this stage they are ready for harvesting. The commercial products of cinnamon are quills, quillings, featherings, chips, cinnamon bark oil and cinnamon leaf oil (Fig. 5.1). The most commonly produced product is cinnamon quills.

The term quills is defined as scrapped peel of the inner bark of mature cinnamon shoots, joined together by overlapping tubes, the hollow of which has been filled with smaller pieces of cinnamon peels which is thereafter dried first in the sun and thereafter in shade for a certain length of time. Quillings are broken pieces and splits of all grades of cinnamon quills. The feather like pieces of inner bark consisting of shavings and small pieces of bark left over from the quill-making process are called featherings. Cinnamon chips are obtained from rough unpeelable bark scraped off from thicker stems. Cinnamon leaf and bark oils are obtained by distilling the leaf and bark separately.

Harvesting and Preparation of Shoots for Peeling

The harvesting of cinnamon shoots is undertaken by skilled workers. Mature shoots are coppiced or cut back to a height of about 5–8 cm from the ground. Two to three crops are taken annually depending on the rainfall. The bark is relatively easy to remove immediately after the rainy season. The most valuable products are obtained from the bark of the cinnamon tree. Removal of the bark is a traditional process, requiring considerable skill and is normally done by trained peelers.

Shoots that are sufficiently mature are selected for harvesting and the side branches are pruned off about three months before harvesting. These shoots are cut at the base by an inward cut, which encourages sprouting from the outside portion of the stump. The freshly harvested sticks are carried to the peeling shed. Several tools are used to remove bark from the stick with minimum damage (Fig. 5.2). These tools include:

(a) a curved knife for scrapping the outer dead bark surface;
(b) a knife having a point on one side for ripping side branches;
(c) brass or wooden rod to loosen bark;
(d) a specially designed pointed knife to remove the loosened bark.

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cassia oils, is obtained from distilling the bark and wood of the *Cinnamomum camphora* tree. China and Japan are the main producers of this oil.

Cinnamon bark oil

Cinnamon bark oil is one of the expensive essential oils in the world market. The price or value of bark oils, largely depend on the material used to distill the oil. Even though quills are the best to obtain quality bark oil, quills are not always used for the distillation. The quillings when fresh provide oil of equal quality and are usually employed in distillation as the preferred raw material on grounds of economy as well as quality.

Like most of the other essential oils, cinnamon oils are also produced by hydro-distillation (Wijesekera, 1989). Hydro-distillation implies water-cum-steam distillation. In Sri Lanka traditional distillation units are built on the hydro distillation principle (Fig. 5.6). To obtain commercial cinnamon bark oil, broken pieces of quills, quillings, pieces of inner bark from twigs and twisted shoots are distilled.

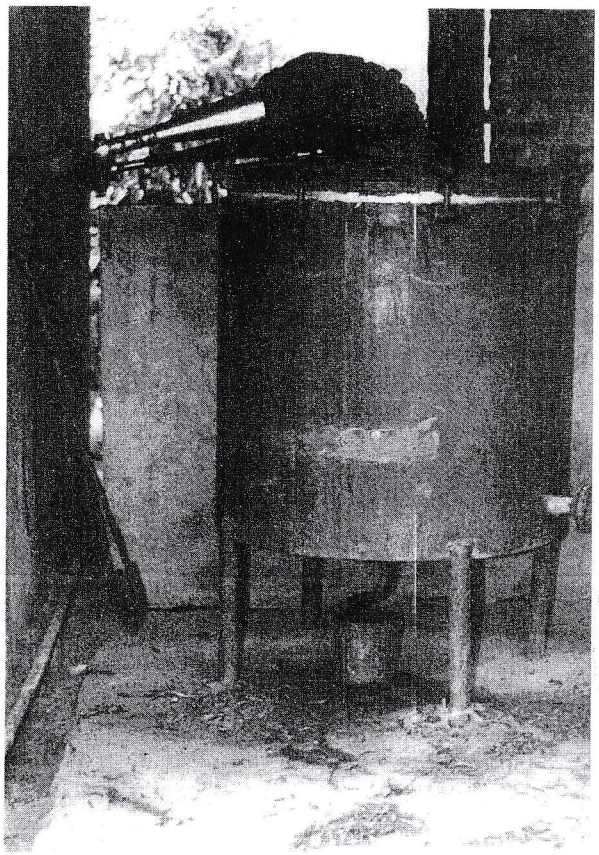

Figure 5.6 Traditional cinnamon bark still.

7 Indonesian Cassia (Indonesian Cinnamon)

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Introduction

C. burmannii Nees – Indonesian cinnamon, Indonesian cassia, Java cassia, Fagot cassia, Padang cinnamon, Batavia cassia, Korintji cassia, cassia vera.

Indonesian cassia or Indonesian cinnamon is the dried bark of *C. burmannii* which is grown in the Malaysia-Indonesia regions and commercially cultivated in the Indonesian islands. It is grown most extensively in the Sumatera, Java and Jambi Islands and extends up to Timor, growing from sea level to about 2000 m. The main centre of cultivation is the Padang area of Sumatera, at altitudes of 500–1300 m. A variant of *C. burmannii*, which has red young leaves, is grown at a higher elevation in the region of Mount Korintji (Kerinci). This cassia is of better quality and is traded in the international market as Korintji (or Kerinci) cassia. The form having green young leaves is grown at lower elevations, and is referred to in the international market as Padang cassia, Batavia cassia or cassia vera. In a small scale it is also cultivated in Phillippines.

The main centres of cultivation are Jambi and west Sumatera, which have around 59,490 ha and 28,893 ha areas respectively, producing around 20,185 t and 18,525 t of cassia bark, respectively. In 1999 there was 123,979 ha of cassia cinnamon that produced 42,590 t of bark. Most of the cassia bark produced is exported and domestic consumption is very little. In 1998, Indonesia exported 36,202 t of cassia bark valued at US$31.7 million. The main importing countries are the USA, Germany and the Netherlands. Almost 85–90% of the product exported from Indonesia comes from west Sumatera.

Habit

C. burmannii is a small evergreen tree, up to 15 m tall, having subopposite leaves. The petiole is 0.5–1 cm long, with a blade that is oblong–elliptical to lanceolate, 4–14 cm × 1.5–6 cm; pale red and finely hairy when young. Older leaves are glabrous, glossy green above and glaucous pruinose below. Inflorescence is a short axillary panicle (Fig. 7.1). Flowers are borne on 4–12 mm long pedicel, perianth 4–5 mm long and after anthesis the lobes tear off transversely about half way. Stamens about 4 mm long, staminodes 2 mm, fruit (berry) is ovoid, about 1 cm long. (Dao *et al.*, 1999) (see Chapter 2 for details on nomenclature and botanical aspects).

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