

# *Alpinia calcarata* Rosc.

**Synonyms** : *Alpinia bracteata* Rosc. , *Reinealmia calcarata* Haw.

**Family** : Zingiberaceae

**Group** : Anti-arthritic/anti-rheumatic/anti-inflammatory, Diuretic/renal protectant

**Parts Used** : Rhizome

**Vernacular Names**

English : Lesser galangal

Malayalam : Chittaratha

Hindi : Toroni

Sanskrit : Rasna



**Distribution and habitat:** It is seen growing in Western ghats of India, Sri Lanka, Malaya and China. Distributed in marshy areas and tropical rainfed conditions.

**Botany:** Rootstock perennial, Leafing stem slender, 0.6-1.2 m high.

• **Leaves:** 15-30 X 2.5-5 cm, lanceolate, acuminate, green and glossy.

• **Flowers:** Numerous, large, in dense panicles 7.5-10 cm long; rachis pubescent; bracts small, ovate. Calyx tube funnel-shaped, 6-8 mm long. Corolla segments 13 mm long. Lip 2.5-3.8 cm long, ovate-oblong, sessile, yellow, streaked with purple veins, emarginated. Ovary densely pubescent; ovules many in each cell.

• **Fruit:** Capsules globose, red.

Chemical constituents: Rhizomes contain hydroquinones, pyranones, camphoride, galangin, alpinine etc. A labdane diterpenoid calcaratarin is isolated from this. Essential oil contains 1,8 cineole apart as major part apart from pinene and methyl cinnamate.

**Uses:** Neurotonic, diuretic, hypothermic, antiulcerative. Used in headache, rheumatic pains, sore throat, pain in the chest, diabetes, burning of the liver, cough, dyspepsia, asthma etc. In Unani it is used in diseases of kidney. It is used for relieving throat inflammation, stimulating digestion, purifying blood and improving voice. Rhizome yields essential oil.

**Formulations:** Rasnadi kasayam, Rasnadi churnam

**Agro technology:**

**Soil and climate:** It can come up in diverse soil and climatic conditions. It can be cultivated as intercrop in coconut and rubber.

**Propagation:** By fresh rhizomes.

Planting: 500 kg of rhizomes /acre is needed. Rainfed crops are planted in May- June. Planting is done on raised beds of convenient size. Spacing is 30 cm X 20 cm or 40 cm X 30 cm.

**Manures and fertilizers:** Incorporate FYM or organic manure @ 10-15 t/ha. Apply fertilizers 100: 50:50 N: P<sub>2</sub>O<sub>5</sub> : K<sub>2</sub>O kg/ha

**Harvesting:** Though the crop can be harvested after 18 months, the optimum stage of harvest for obtaining maximum rhizome and oil yield is 36-42 months after planting. Sliced rhizomes are dried and it gives 25% recovery. The average yield is 23 t/ha.

**Processing:** The rhizome is thinly sliced and steam distilled for 3-4 hours to extract the essential oil. The oil recovery on a dry weight basis is 0.93 percent and 0.22 percent on fresh weight basis.

