

Piper longum L.

Family	: Piperaceae
Group	: 4. Thrikadu, Anti tussive (expectorant), Antipyretic
Parts Used	: Root , Dried spikes
Vernacular Names	
English	: Long pepper
Malayalam	: Thippali
Hindi	: Piplamul
Sanskrit	: Pippali
Bengali	: Piplamul
Tamil	: Thippili



Distribution and habitat: Native of Indo-Malaya region. It grows wild in the tropical rain forests of India, Nepal, Indonesia, Malaysia, Sri Lanka, Bhutan, Timor and Philippines. In India, it is seen in Assam, West Bengal, Uttar Pradesh, Madhya Pradesh, Maharashtra, Kerala, Karnataka and Tamil Nadu.

Botany: Glabrous perennial under-shrub with erect or sub-scandent nodose stem and slender branches; the latter are often creeping or trailing and rooting below or rarely scandent reaching a few meters height.

• **Leaves** : Simple, alternate, stipulate, and petiolate or nearly sessile; lower ones broadly ovate, cordate; upper ones oblong, oval, all entire, smooth and thin with reticulate venation; veins raised beneath. It flowers nearly throughout the year.

• **Flowers**: Inflorescence is spike with unisexual small achlamydeous densely packed flowers and form very close clusters of small greyish green or darker grey berries. Female spikes with short thick stalk varying from 1.5 to 2.5 cm in length and 0.5 to 0.7 cm in thickness.

Chemical constituents: The spike of long pepper contains 4-5% piperine, pipartine, piperolactam, N-isobutyl deca trans-2-trans-4-dienamide and piperadione alkaloids and 0.7 % essential oil. Roots contain the alkaloids piperine, pipartine and piperlongamine; sesamine, methyl -3, 4, 5-trimethoxy cinnamate. Stem contains triacontane 22, 23 - dihydrostigmastanol. Fruits contain piperidine, caryophyllene and sesquiterpene alcohol.

Properties & Uses:

- The root is pungent, hot, stomachic, laxative, anthelmintic and carminative.
- The fruit is sweetish, pungent, hot, stomachic, aphrodisiac, alterative, laxative, antidysenteric, emmenagogue, abortifacient, diuretic and tonic.
- The essential oil is antimicrobial and anthelmintic. N-isobutyl-deca-trans-2-trans-4-dienamide is antitubercular.
- Piperine is hypotensive, antipyretic, analeptic and nerve stimulant.
- The root is useful in bronchitis, stomach ache, diseases of spleen and tumours.
- Root and fruit are used in gout and lumbago.
- The infusion of root is prescribed after parturition to induce the expulsion of placenta.
- The root and fruit decoction are used in acute and chronic bronchitis and cough. It contains the alkaloid piperine which has diverse pharmacological activities, including nerve depressant and antagonistic effect on electro-shock and chemo-shock seizures as well as muscular incoordination.

Formulations: *Pipalarishta*, *Pippalyasava*, *Panchakola*, *Pippalayadilauha*, and *Lavana bhaskar churan* are common ayurvedic preparations made out of the dry spikes of female types. *Ittrifal fauladi*, *Angaraya-i-kabir* and *Majun khadar* are well known *unani* preparations of long pepper.

Agrotechnology:

Soil and climate: Highly adapted to warm humid tropical climate. Fertile loamy soil having good drainage is ideal. It is a shade loving plant and can be cultivated in middle aged coconut gardens and also in similarly shaded plantations.

Propagation: By suckers or rooted vine cuttings 15-20 cm long. 3-5 noded rooted vine cuttings establish very well in polybags. **Planting:** Beds of 1m width and convenient length may be taken and Two rooted cuttings were planted per pit at a spacing of 60 cm X 30 cm. Season of planting is May-June after receipt of 4-5 premonsoon showers.

Variety "Viswam" is recommended for higher spike yield both in irrigated open and shaded conditions .

Harvesting: The vines start flowering six months after planting and flowers are produced almost throughout the year. The spikes mature in 2 months time. The optimum stage of harvest is when the spikes are blackish green. The pungency is highest at this stage. Spikes are hand picked when they become mature and then dried.

Processing: The harvested spikes are dried in sun for 4-5 days until they are perfectly dry. The green to dry spike ratio is 10:1.5 by weight.

