
Long Pepper - A Guide to its Cultivation

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ABSTRACT

After the COVID-19 pandemic, a substantial increase in respiratory diseases has been noted. People are now aware of the side effects of synthetic medicines and are opting for a natural and safer method of health care. Long pepper is an important medicinal plant renowned for its efficacy in treating many diseases, especially respiratory diseases. The cultivation practices of long pepper are dealt with in this article.

INTRODUCTION

India is a treasure house of medicinal plants. We are blessed with diverse plant species with exceptionally high medicinal properties. Many of these plants can be easily cultivated in our households with less management and care, ensuring a chemical-free natural alternative for holistic health. Long pepper, with its remarkable medicinal properties, has earned a prominent position in treating various respiratory disorders.

A RELATIVE OF BLACK PEPPER

Scientifically known as *Piper longum* Linn., this medicinal plant belongs to the same family of black pepper, i.e. Piperaceae. It is commonly known as Thippali, Pippali, Pipul, Indian long pepper, etc. It is supposed to have originated in Indo-Malaya regions and grows wild in tropical rain forests of India, Indonesia, Malaysia and Sri Lanka. In India, it is found in hotter parts, with damp humid climate. The economic parts of this plant are the dried mature unripe fruits known as spikes, and roots. Thicker parts of stem and roots are cut and dried, known as

Piplamool, is used in ayurvedic and unani systems. Long pepper is one of the important constituents of thrikadu, along with black pepper and dried ginger. Java thippali, a type of thippali, scientifically known as *Piper chaba*, is a larger fruit type which is more pungent but have less flavour.

CHEMICAL CONSTITUENTS

The spikes contain piperin (4-5%) as the principal constituent. It also contains piplatin, piperolactum and piperadione. The roots contain piperine, piper longumine and piper longuminine.

USES

Long pepper is well known for its use in curing respiratory diseases. It is used as an expectorant and febrifuge. It has stomachic properties also and it improves appetite. It has diuretic, antidiarrhoeic, antidysenteric, anthelmintic and carminative properties and is used as a laxative and aphrodisiac. It is used for abdominal complaints, insomnia, tuberculosis, bronchitis, stomach ache, tumours and piles. It is used as a tonic for improving general health.

BOTANY

Long pepper is a dioecious plant with male and female spikes in different plants. It is a glabrous perennial climber with woody roots. It has slender branches with swollen nodes, often creeping or trailing and rooting below. It has 5-9 cm long, simple leaves that are alternately arranged, stipulate and petiolate or nearly sessile. The lower leaves are broadly ovate and cordate, whereas the upper leaves are cordate dark green with short petioles. The inflorescence is a solitary spike arising from the leaf axil, with unisexual, small achlamydeous densely packed flowers and forming very close clusters of small greyish green or darker grey berries. Male spikes are long (2.5-7.5 cm) and slender, green during the immature stage and yellowish during the mature stage. Female spikes are short (1.5-2 cm), cylindrical, stout, thicker, greenish in the immature stage and deep black when mature. Dried mature female spikes are commercially marketed.

VARIETY

Viswam is a variety released by Kerala Agricultural University. It is a selection from cheemathippali. It bears female type spike, which is suitable for open and shaded conditions. It yields 800-850 kg/ha dry spikes in open conditions and 350-400 kg/ha when grown as intercrop in coconut. It is rich in alkaloid (2.8%).

CLIMATE AND SOIL

Warm humid tropical climate with high humidity is suitable for the growth of long pepper. Higher elevations are not favourable for good yield. Partial shade of 20-25% is ideal for its growth. So, it is an ideal intercrop in coconut and arecanut gardens. Well drained organic matter rich, fertile, forest soils are highly suitable for its growth.

PROPAGATION

It is propagated by rooted vine cuttings from female plants. 3-5 noded rooted cuttings are

planted in polybags. Cuttings can be planted in nursery with 25% shade. After 2 months, the rooted cuttings will be ready for planting.

MAIN FIELD PLANTING

Plough the field and remove the stubbles. Beds of 1m width, 15-20 cm height and convenient length are taken. Between beds, channels of 30 cm are taken for drainage. In the bed, small pits are taken at a spacing of 60 x 60 cm. Dried cow dung /FYM is applied @ 100g/pit. Then two rooted cuttings are planted per pit during May-June. After planting, provide support.

MANURING

Organic matter is highly essential for the growth of long pepper. FYM is applied @ 20 t/ha. Cowdung slurry can be applied once in 2 months. Since crop gives economic yield upto 3 years, manuring should be done each year.

INTERCULTURAL OPERATIONS

Once a week, irrigation has to be done. Proper mulching using dry leaves or straw must be done during summer. Excess irrigation has to be avoided as it favours fungal diseases. During initial stages, weeding is necessary. Once the plant gets established, weeding will not be a serious problem.

PLANT PROTECTION

Like black pepper, it is also affected by Phytophthora diseases. To control this, Bordeaux mixture 0.5% can be applied at fortnightly intervals. Sucking insects like mealy bugs suck sap from the plants, and neem seed kernel extract can be used against the infestation. To control nematodes, *Pseudomonas fluorescens* @10 g per plant should be applied.

HARVESTING

Long pepper starts bearing 6-7 months after planting. Spikes mature 2 months after fertilization. Harvest female spikes, when they are mature *i.e.*, when the spikes are fully grown, yet unripe. The correct stage of harvest is when the spike is blackish green in colour, since, at that time, the spike will have maximum pungency. At this stage, if we are not harvesting, they will ripen and lose pungency. Roots can be harvested after 3-4 years.

POST HARVEST OPERATIONS

After harvesting, the spikes are dried under shade for 2 weeks and stored in a moisture proof container. The root and thicker basal stem are cut into pieces and dried.

YIELD

During 1st year, 400 kg of dry spike can be harvested per hectare. The yield will increase upto 1000 kg/ha. A root yield of about 500 kg/ha is reported. The economic life span of long pepper is 3-4 years. The vines become less productive after 3-4 years, and so they should be replanted.

CONCLUSION

Cultivation of medicinal plants provide income and employment opportunities for millions of people. Long pepper can easily be cultivated in every household. Its shade loving nature makes it a suitable option as intercrop in coconut and arecanut gardens. A range of ayurvedic products

containing long pepper such as Pippalyadithailam, Draaksharishtam, Agasthyarasaayanam, Karpooradichoornam, Thaaleesapatradichoornam, Lavanabhaskarachoornam, etc. are now commercially available in the market, providing easy access to these natural herbal remedies.

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