

# “LONG PEPPER”

**Commercial Cultivation**

**Versatile Medicine**



**CLICK-N-GROW**  
Agroventures Pvt Ltd

Farmer's e-Buddy

## INTRODUCTION

Along with the medicinal importance Pippali is also an important spice and it is also used for manufacture of industrial products. Along with the fruits of Pippali, its root, which is called Pippalamool, is also used in production of many medicines. In traditional medicine, Pippali is used for the treatment of disorders like headache, cough, throat-related diseases, indigestion, gas problem in the stomach and piles, etc. Along with the fruits and roots of Pippali, its leaves are used like betel leaves. Pippali is basically a plant of Malaysia and Indonesia. Along with these, it is also found in Nepal, Sri Lanka, Singapore, Afghanistan, Pakistan, the Philippines, and Burma. In India, it is mainly found growing naturally in tropical regions and forests with high rainfall. It is also grown in many parts of our country like Maharashtra, Kerala, Andhra Pradesh, West Bengal, Khasi Hills, Eastern Uttar Pradesh, Madhya Pradesh, Karnataka, Tamil Nadu, etc.

## DESCRIPTION OF PLANT

Pippali is a fragrant creeper which spreads on the ground or rises up with the support of other trees. Subroots emerge from its creeping tendrils, through which it climbs and spreads. Its leaves are in the shape like betel leaves, whose length is usually 5 to 7 cm. Flowers appear



on its plants in the rainy season and fruits are ready in autumn. Initially its fruits are light yellow in color which when ripe turn green and eventually turn blackish grey. Small round bumps are found on its fruits which look like mulberry fruits. Its dried fruits and the root of the plant are used for medicinal purposes.

## CHEMICAL COMPOSITION OF PIPPALI

4 to 5 percent alkaloids called piperine and pipelartine are found in the dried fruits of Pippali. Apart from this, sesamin and piplasterol are also found in them. Piperine (0.15 to 0.18 percent), pipelartin (0.13 to 0.20 percent), piperlonguminin (0.2 to 0.25 percent) and Piper longumin (0.02 percent) are found in the roots of Pippali. Aromatic oil (0.7 percent) is also found in it due to which it smells like black pepper and ginger oil.

## LONG PEPPER NAME IN DIFFERENT LANGUAGES

- **Hindi**- Peepal, Pippali, Lendi Peepal
- **Sanskrit** - Pippali, Magadhi (originating in Magadha), Krishna (as it is blackish grey in colour), Kana (containing particles), Chapala (fickle and harp), Tikshtandula, Ushna, Upakulya, Shaundi, Kola.
- **Marathi** - Pipli, Pimpli, Paan Pipli
- **Gujarati** - Peepal, Pipli
- **Tamil** - Tipili
- **Telugu** - Pipul, Modi, Piplu
- **English**- Indian Long pepper
- **Botanical name**- Piper longum
- **Botanical family (Family)** – Piperaceae





## MEDICINAL USES

The main medicinal functions for which Pippali is used in traditional medicine are as follows-

- For the treatment of asthma and bronchitis
- For the treatment of cough, flatulence, and fainting, in case of diarrhea
- For the treatment of fatigue and sexual weakness, effective in stimulating metabolism
- hiccups and vomiting
- for the prevention of influenza
- for the treatment of throat infection
- for the treatment of ringworm
- For the treatment of cough, hiccups, sore throat and respiratory obstruction. The usefulness of Pippali in the treatment of stomach disorders is universal. In this context, a well-known product is Lavan Bhaskar Churna, which hardly anyone is unfamiliar with, is prepared by mixing pippali fruits and roots, coriander, cumin, and sandha and it is considered a panacea medicine for all types of stomach disorders in home medicine.
- In this way, long pepper is a plant of great commercial importance, which has great utility for medicinal purposes as well as for industrial uses and as a spice. Along with the above, Pippali is also considered an important brain chemical which has properties like enhancing intelligence and memory power.



## AGRICULTURAL TECHNIQUES

Pippali is cultivated for its fruits (Spikes) and Roots (Roots). It is cultivated for three to five years. Pippali plants start bearing fruits four to five months of planting, which are harvested every year. After harvesting pippali for spikes, after five years, its root (Pipplamool) is also obtained by uprooting its entire plant.

## CLIMATE

Pippali requires hot and humid climate for its good growth. It grows well even in areas where there is heavy rainfall or which are very humid. Generally, it grows well in areas with altitude ranging from 330 to 3300 feet, whereas in areas higher than this, it does not get proper yield. Because in its natural (wild) form it grows well in semi-shaded areas, hence from the point



of view of farming also such areas should be selected for it where there is provision of at least 25 percent shade. If such areas are not available naturally then such arrangements should be made artificially. Thus, hot, humid and semi-shaded areas are found to be more suitable for the cultivation of Pippali.

## SOIL REQUIREMENT

Pippali can grow well in loamy and red soils rich in organic matter, which have adequate drainage. Soils with normal pH and good water holding capacity are suitable for pippali cultivation. It can also grow well in Cherrapunji of Assam where soils are lime or calcium rich. Areas where betel cultivation is done, are more suitable for this crop.

## PLANTING MATERIAL

Pippali can be propagated by seeds, suckers, cuttings, and also by layering. But, from the point of view of commercial farming, it is more appropriate to propagate it by cuttings. For this, cuttings are first prepared in the nursery.

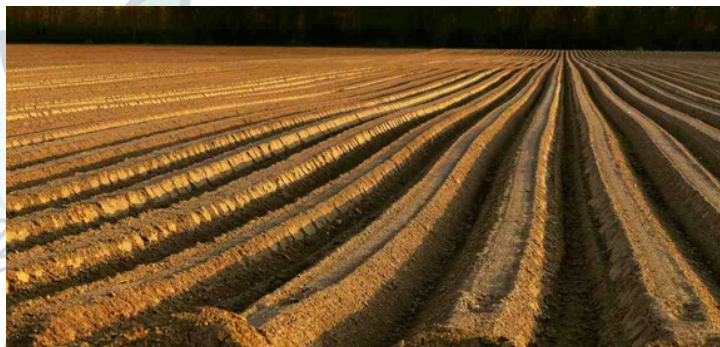


## NURSERY PREPARATION

The most suitable time for preparing Pippali nursery is the month of February-March (at the time of Mahashivaratri). The 8 to 10 cm long branches of old plants and each of which has 3 to 6 eyes (nodes), are cut and planted in polythene bags. These bags are prepared by adding soil, sand, and cow dung manure (33 percent each) before transplanting. These cuttings should be treated with cow urine before planting in bags. These polythene bags should be kept in a shady place and they should be lightly irrigated daily. These cuttings are ready for transplanting in the field in about 1.5-2 months.

## LAND PREPARATION

The seedlings raised in the nursery are finally transplanted to the main field where these seedlings will remain for 4-5 years. From this point of view, there is a need for proper land preparation of the main field. For this, the field is plowed 2-3 times, and 5 to 7 tons of well decomposed farm yard manure per acre is mixed in it. After that, these cuttings have to be planted in the field. For this one plant of castor, pangra or augusti is which



planted near each pit, which grows rapidly and Pippali's vines climb on them. Dry branches can also be buried for supporting climbers. In many areas, they are also supported on Subool or coconut plants.



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## TRANSPLANTING IN MAIN FIELD

With the onset of the monsoon, pippali plants prepared in the nursery are planted in pits in the main field. It is appropriate to plant two plants in one pit. As mentioned above, in the main field these plants are planted at a distance of 2x2 feet and in this way, about 20-25000 plants are required to cover 1 acre area.

## SUPPORT PLANTATION

It is necessary to arrange support for climbing the Pippali vines. For this, either Agasti, Erand, or Pangra can be planted in the field as mentioned above, or dry stalks are buried on which these creepers take support. If there is no proper arrangement for climbing, then fruits that grow on these vines can rot.





## WEEDING

In the initial stage of the crop, it is necessary to do hand weeding of the field so that weeds do not flourish around the plants. Once the vines spread, there is no need for further weeding. Even if they are, they should be removed by hand.

## IRRIGATION

Although Pippali is taken as an unirrigated crop in some areas of Kerala, but in order to get a good crop, it is necessary to irrigate. Light irrigation every week with sprinklers, flood irrigation method or drip method is proven to be useful. Irrigating the crop at regular intervals is necessary for proper growth of the crop. In the summer season, if the crop is not irrigated, mulching can be done by spreading dry grass or leaves etc. near the plants.



## PEST AND DISEASES

Mealy bug and tippa are the major pests causing damage to Pippali crop. Mealy bug attacks the roots of the plant and it affects more in the summer season. For its control, plants should be sprayed with Bordeaux mixture once in the month of May and thereafter 2-3 times. Similarly, by grinding neem cake and making its solution, sprinkling on the plants can also be beneficial.

## CROP MATURITY

After about five-six months of planting, fruits (spikes) mature on the plants. Fruits are harvested when they are greenish-black in colour. At many places these fruits are harvested only once a year (usually in the month of January) while at many places they are harvested from time to time (three to four times). After harvesting, these fruits are dried properly by putting them in the sun for 4-5 days. When they are well dried, they are sent for marketing.



## PRUNING OF VINES

Generally, after harvesting, Pippali plants are cut and pruned in the month of February-March. After some time, leaves come again on these plants and these vines start to flourish again. After harvesting, spraying with cow urine and Bordeaux mixture should be done on these plants. In this way, by keeping pruning these plants every year, plants keep giving good yield for 4-5 years. The vines obtained by pruning can also be used as cuttings for further propagation. After five years, roots can also be obtained by digging the plants.



## GROSS YIELD REALIZATION

In the first year, Pippali crop yields at least 2 quintals of dry fruits (spikes) per acre and it can yield up to 11 quintals per acre per year in the third year. At the end of the crop (third or fifth) year, about 200 kg of Pippalamool per acre is also obtained. The selling rate of pippali dry spikes is Rs.300 to 450 per kg.

## Total cost per acre- 3 Years

| Particulars                  | Work  | 1st year  | 2nd year | 3rd year |
|------------------------------|---|-----------|----------|----------|
| Land Preparation             | Ploughing, Levelling, etc.  | 3,000     | ---      | ---      |
| Organic Fertilizers          | Organic insecticide, growth boosters, etc.                                  | 15,000    | ---      | ---      |
| Planting material / cuttings | 10,000 rooted vine cuttings @ Rs. 10/- per cutting                          | 1,00,000  | ---      | ---      |
| Sowing                       |   | 2,000     | ---      | ---      |
| Electricity bill             | For irrigation  | 2,000     | 2,000    | 2,000    |
| Harvesting                   | Harvesting fresh spikes   | 2,000     | 3,000    | 4,000    |
| Other Expenses               | Cost of transportation, disease and pest management, other care and packing | 5,000     | 10,000   | 10,000   |
| Total expenditure            |   | 129,000/- | 15,000   | 16,000   |
| Total expenditure (3 years)  |   | 160,000/- |          |          |

## Total income per acre- 3 Years

| Output                        | 1st year     | 2nd year       | 3rd year       |
|-------------------------------|--------------|----------------|----------------|
| Net yield (Dry spikes)        | 300 kg       | 700 kg         | 1100 kg        |
| Buy back price (per kg)       | 300/- per kg | 300/- per kg   | 300/- per kg   |
| Net selling price             | Rs.90,000/-  | Rs. 2,10,000/- | Rs. 3,30,000/- |
| Total income (3 years)        | Rs.630,000/- |                |                |
| Total expenditure (3 years)   | Rs.160,000/- |                |                |
| Net profit / income (3 years) | Rs.470,000/- |                |                |

# COMPANY PROFILE

## Click-N-Grow Agroventures Pvt. Ltd.



**INTERLINKED FARM SOLUTIONS AT ONE PLACE**

**Click-N-Grow Agroventures Pvt. Ltd.**



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