**BLACK PEPPER** Vernacular name :- Kali mirch Botanical name :- Piper nigrum **CLASSIFICATION** Class :- Magnopliosida Order :- Piperales Family :- [Piperaceae](https://en.wikipedia.org/wiki/Piperaceae) Genus :- Piper species :- nigrum

1. Black pepper is a [flowering](https://en.wikipedia.org/wiki/Flowering_plant) [vine](https://en.wikipedia.org/wiki/Vine) (climbing) plant . 2. It is cultivated for its [fruit](https://en.wikipedia.org/wiki/Fruit), known as a Peppercorn, which is usually dried. 3. Its spiciness is due to the chemical compound [Piperine](https://en.wikipedia.org/wiki/Piperine). 4. The pungent spice is made from its fruits. 5. It is the most widely used spice and has a very old history.

**DISTRIBUTION/OCCURRENCE**  1. It is extensively cultivated in [tropical](https://en.wikipedia.org/wiki/Tropical) regions. 2. It is believed to be originated from [South – east Asia](https://en.wikipedia.org/wiki/Southeast_Asia) (Indo - Myanmar) or [South Asia](https://en.wikipedia.org/wiki/South_Asia) regoin. 3. The Black pepper producing countries are [Vietnam](https://en.wikipedia.org/wiki/Vietnam), [Indonesia](https://en.wikipedia.org/wiki/Indonesia), [India](https://en.wikipedia.org/wiki/India), [Brazil](https://en.wikipedia.org/wiki/Brazil), Malaysia, Africa, Thailand, Philippine island, Sri Lanka etc. 4. [Vietnam](https://en.wikipedia.org/wiki/Vietnam) is the world's largest producer and exporter of pepper. 5. Black pepper is native to present – day [Kerala](https://en.wikipedia.org/wiki/Kerala) in [South India](https://en.wikipedia.org/wiki/South_India) and Karnataka. 6. It is also cultivated in Assam and Bengal..

**NUTRITION**  1. Black pepper contains moderate amounts of [vitamin K](https://en.wikipedia.org/wiki/Vitamin_K), [iron](https://en.wikipedia.org/wiki/Iron), potassium, calcium & [manganese](https://en.wikipedia.org/wiki/Manganese). 2. It also has other [essential nutrients](https://en.wikipedia.org/wiki/Essential_nutrients) [protein](https://en.wikipedia.org/wiki/Protein_%28nutrient%29) and [dietary fibre](https://en.wikipedia.org/wiki/Dietary_fibre).

**BOTANICAL DESCRIPTION/STRUCTURE**  1. It is a [perennial](https://en.wikipedia.org/wiki/Perennial_plant), weak, trailing, [woody](https://en.wikipedia.org/wiki/Woody_plant) [vine](https://en.wikipedia.org/wiki/Vine) shrub. 2. It is a spreading vine plant. **Root** :- 1. The roots arises where trailing stems touch the ground. 2. The roots are covered in leaf [mulch](https://en.wikipedia.org/wiki/Mulch) (decaying) and [manure](https://en.wikipedia.org/wiki/Manure) **Stem** :- 1. It grows up to 4 mt. (13 ft) in height. 2. It needs support like trees, poles, or trellises (support for climbing plants). 3. The height of the plant is however, kept low under cultivation to facilitate harvesting. 4. The stem of the plant has swollen nodes from which arises the adventitious root, leaves and inflorescence. 5. The stem is thin but becomes woody with age. **Leaves** :- 1. The leaves arise from the node. 2. The leaves are entire and borne in alternate manner. 3. It is 5 – 10 cm. long and 3 – 6 cm. across. **Inflorescence/Flower** :- 1. The Inflorescence/Flower are borne on the node. 2. They are borne opposite to leaves. 3. The flowers are small, produced on pendulous spikes. 4. The flowers are 4 – 8 cm. long at the leaf nodes. 5. The length of spikes are up to 7 – 15 cm. as the fruit matures. 6. A single stem bears 20 – 30 fruiting spikes. **Fruit** :- 1. It is produced from the still – green, unripe [drupe](https://en.wikipedia.org/wiki/Drupes) of the pepper plant. 2. It is sessile, globose with a pulpy (soft) pericarp. 3. It is 6 mm. or less in diameter, brownish black, with a coarsely reticulate surface. 4. The mature fruit is dark red, and contains a single [seed](https://en.wikipedia.org/wiki/Seed), like all [drupes](https://en.wikipedia.org/wiki/Drupe). 5. The dried fruit called Peppercorn is wrinkled and black coloured. 6. The fruits are aromatic and pungent. **Seed** :- The seed is almost white hollow, and adheres to the pericarp.



**CULTIVATION/PLANTING** 1. The plant is cultivated by sowing the seeds or by propagating stem cuttings from the top of an growing shoot of 10 – 20 years old plant. 2. They are tied up to neighbouring trees or climbing frames at distances of about 2 mt. apart. 3. Plants grown from cuttings stems start bearing fruit from the 2nd year & survive upto 15 yrs. 4. Seed – raised plants start fruiting after 7 – 8  years and can survive up to 60  years. 5. The cuttings are planted in March – April keeping a distance of 3 – 4 mt. in either direction. 6. The shoots are trimmed twice a year. 7. Flowering occurs in May/June . 8. On dry soils, the young plants require watering every other day during the [dry season](https://en.wikipedia.org/wiki/Dry_season) for the first three years. 9. The plants bear fruit from the 4th – 5th year, and then typically for seven years.

**HARVESTING** 1. The orange or red coloured fruits are harvested by hand in February/March. 2. It is harvested before the fruit is fully mature. 3. The harvested green fruit spikes are heaped for a day and spread on a mat or floor. 4. The fruits are separated from spikes by rubbing. 5. The fruits are cooked briefly in hot water, to prepare them for drying. 6. The drupes (fruits) dry in the sun or by smoke in a machine for several days, So the pepper skin around the seed shrinks and darkens into a thin, wrinkled black layer. 7. On some places, the fruit are separated from the stem by hand and then sun – dried without the boiling process. 8. Once the Peppercorns are dried, oil can be extracted by crushing them.

 **ECOLOGICAL FACTOR Climate** :- 1. The plants grow in a highly humid and throughout the warm tropical climate. 2. The well – distributed annual rainfall of 250  cm. (100 inches) is ideal for successful cultivation. 3. Temperature variation of 10 – 40 °C. is tolerated by the plant. 4. When grown on sloped land, slopes facing south are to be avoided and plants prefer shade and protected from severe sunlight. **Soil** :- 1. It can be grown in soil, not too dry nor susceptible to flooding, moist, and well-drained. 2. It thrives best in soil rich in humus content. 3. Clay is best suited for the plant, but it can be grown on red loams, sandy loams, and even alluvial soil. 4. It can also be cultivated on the laterite soils of hill slopes.

**SOME VARIETIES OF BLACK PEPPER**  1. Several varieties of fennel are cultivated throughout the world.  2. Some of the varieties are :- Karimunda, Kottanadan, Narayakodi, Aimpiriyan, Neelamundi, Kuthiravally, Balancotta, Kalluvally, Billimalligesara, Karimalligesara, Doddigya, Mottakare, Uddagare etc.

**USES**  1. It is used as a [spice](https://en.wikipedia.org/wiki/Spice) and [seasoning](https://en.wikipedia.org/wiki/Seasoning) (add in food to enhance flavour). 2. It is used for both, flavour and as a [traditional medicine](https://en.wikipedia.org/wiki/Traditional_medicine). 3. It is one of the most common spices added to cuisines (restaurant) around the world. 4. It is used as a condiment (chatni, pickle) and flavouring materials for all types of food and dishes. 5. It is used in the manufacture of sauces, ketchups etc. 6. It brings about a cooling effect on the human body. 7. It stimulates the flow of saliva and gastric juices and thus helps in the digestion of food. 8. Pepper oil is also used as an [ayurvedic](https://en.wikipedia.org/wiki/Ayurvedic) massage oil and in certain beauty and herbal treatments.

JANARDAN PRASAD SINGH VISTHAPIT MAHAVIDYALAYA, BALIDIH DEPARTMENT OF BOTANY