

# Black pepper

Condition of soil	Pepper is grown in red loam, sandy loam, clay loam and red lateritic sandy clay loam soils with pH of 4.5 to 6.0.
Varieties	Panniyur-I, Panniyur-II, Panchami.
Propagation	Pepper is normally propagated through shoot cutting. 2–3 noded cuttings of runner shoots are generally used. The lateral shoots on rooting give rise to bush type black pepper. The runner shoots are separated from vines during Feb March and after trimming leaves, cuttings with 2-3 nodes each are planted either in nursery beds or in polythene bags filled with fertile soil, so that they would be ready for planting by June-July.
Cultivation	Black Pepper, being a climber needs supporting tree for climbing. Arecanut, Erythrina, Jack, Mango, Silk cotton or any other rough barked tree which does not peel out the bark and which is already available in the garden including coconut can be used as standard for pepper in a mixed homestead farming. Pits of 45 cm long, wide and deep may be made about 60 cm away from the base of the supporting tree on northern side, during Feb-March and filled back with the top soil, dry leaves and compost or farm yard manure. Addition of Organic manure and cattle manure to the pits would develop the basic fertility to encourage quicker growth. The live standards are used at a spacing of 2.7 m x 2.7 m accommodating 2200 vines/ha @ 2 cuttings planted at the base per standard. Two rooted vines with at least 4-5 nodes are planted at the centre of the pit, in such a way that one node is within the soil so as to facilitate proper rooting in June-July with the onset of monsoon. The vines may be tied to the stakes slanting towards the standard tree.
	<p><b>TRAINING AND PRUNING</b></p> <p>As the cutting grows, the shoots are tied to standard as often as required. Pepper plants when young, needs shade either natural or artificial. But too much shade during flowering, defers fruit setting because the raindrops are required to function as the pollinating agent. The young vines should be protected from hot sun during summer by providing shade using coconut leaves. Regulation of shade by looping of branches of the standards, before the monsoon is necessary not only for providing optimum lights to vines, but also for enabling standards to grow straight. Adequate mulch with green leaf should be given (before the monsoon) after digging around standards at 1m radius. It is a good practice to bring down the vines after one year and bend them one round and embed in the soil to provide more root zone and also to lessen the fruiting height.</p>
Manures and fertilizers	Manuring the soil around the plants twice a year is a good practice i.e. the first half before monsoon in May and second half after monsoon in October to November. NPK at 100:40:140gm per vine per year i.e. 200 urea, 220 gm

	<p>Rock phosphate and 230 gm Murate of potash per vine per year may be applied in two doses. The first half in April-May with the onset of Monsoon and the second half in Sept-Oct. The fertilizers are applied at a distance of about 30cm all around the vine and at a depth of about 15cm. The soil is forked in after application. One third of the recommended dose is applied during the first year, which is increased to two-third in the second year, and full dose is given third year onwards. 10 kg of cattle manure compost per vine in May after <math>\frac{3}{4}</math> years of planting is also recommended. Application of lime @ 500g per vine during April-May in alternate years is also recommended.</p>
After care	<p>Carry out digging around the standards and vines at 1m radius from the base or in the entire plantation, twice during the year, the first at the onset of monsoon and the second towards the end of north-east monsoon. Weeding around the plant is to be done according to necessity. In the early stages, the vines are tied to the standards. Lowering of the vines after 1 year's growth promotes lateral branch production. Intercropping of Pepper gardens with Ginger, Turmeric, Colocacia &amp; Elephant foot, Yam is advantageous. The young plant may be completely covered with dry arecanut leaves, coconut leaves or twigs of trees until summer months are over. Mulching the basins of pepper vines during summer months is highly advantageous. Sawdust, arecanut husks and dry leaves are suitable mulching materials. Removal of unwanted terminals, shoot growth and hanging shoots should be done as and when necessary. Prune and train the standards in March-April every year to remove excess over growth and to give them a proper shape. The effective height of the standards is to be limited to 6m. A second pruning of the standards is done in July-Aug, if there is an excessive shade in the garden. After regular bearing for about 20 years, the vines of most varieties start declining in yield. So under planting should be attempted at about 20 years after planting or when a regular declining trends in yield appears. The old and senile vines must be removed 3-5 years after under planting, depending on the growth of young vine.</p>
Disease	<ul style="list-style-type: none"> <li>• For control of disease of Anthracnose spraying with Carbendazim (1 gm per litre of water) is done.</li> </ul>
	<ul style="list-style-type: none"> <li>• For control of slow decline (slow wilt) apply phorate @ 30gm or carbofuran @ 100gm per vine and earth up, once in May-June and again during October. Ensure soil moisture during and after application. Apply copper oxychloride (4gm/lit of water) also.</li> <li>• For control of foot rot (quick wilt) drench the spot with 4-5 lit of copper oxychloride 50 WP solution (4 gm/lit of water), after removing the infected and dead vines along with root system from the plantation. Avoid replanting in the same year.</li> <li>• To control top shoot borer spray with Quinalphos 25 EC (2 ml/lit. of water) during July-September.</li> </ul>

	<ul style="list-style-type: none"> <li>• To control Pollu beetle spray with Quinalphos 1.5 ml/lit. of water during June-July and September.</li> <li>• To control leaf gall thrips spray with monocrotophos 36 EC (1.5 ml/lit. of water) on tender leaves.</li> </ul>
Harvest and yield	<p>It flowers during June–July and ready for harvest during December-January, when one or two berries in few spikes turn orange or red. Hand picking is the common practice for harvesting. Berries are separated from the spikes and sun dried for 5-7 days after their separation from the spike by threshing. To give a uniform lustrous black colour to the finished product and to prevent mouldiness of the berries, a heat treatment is recommended. Suitable quantities of separated berries are collected in a perforated basket/vessel or clean gunny bag. Dip the berries along with the container in boiling water for one minute, take out, drain and spread on a clean surface for sun drying. White pepper is produced by collecting fully mature berries (yellow or orange), retting them in clear water for 5-7 days for removing the outer skin completely and dry the berries after thorough washing and cleaning. Black pepper starts yielding from third year onwards. The major products are white pepper, canned tender green pepper, and bottled green pepper in brine, dehydrated green pepper, and pepper oleoresin and pepper oil. The average yield per plant would be 5-8 kg of green pepper, which on drying comes to 25% - 30% dry seed.</p>