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## Bush pepper: A new generation urban spice crop

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**Abstract**

Black pepper is an important spice crop of India. Black pepper is also known as Kurumulaku in Malayalam and Kalimirsch in Hindi. Black pepper is having great socio-economic importance as well. India is known to have a highest area of black pepper all over the world. India was a dominant producer, supplier and consumer of black pepper in the world context. But in the last few decades there are some newly emerging countries which is the major competitor in global context. At present the productivity in India is very low due to non-adoption of good agricultural practices. Unlike most other spices, bush pepper is not a space consuming crop. Besides being planted in pots, it can also be intercropped with coconut or mango crops. Most importantly, unlike black pepper vines, bush pepper gives berries all year round.

**Keywords:** black pepper, bush pepper, GAP, productivity

**Introduction****Why bush pepper**

Spices are an indispensable part of Indian food habit. Besides adding taste, it also adds to several health benefits. Black pepper is regarded as “King of Spices” and “Black Gold” (Parthasarathy *et al.*, 2008).<sup>[1]</sup> Black pepper is having great socio-economic importance as well. India is known to have a highest area of black pepper all over the world. India was a dominant producer, supplier and consumer of black pepper in the world context. But in the last few decades there are some newly emerging countries which is the major competitor in global context. The productivity of black pepper in India is being challenged by countries like Malaysia and it is ascribed basically to improper management practices (Hamza and Sadanandan, 2005).<sup>[2]</sup> It is the largest foreign exchange earner among spices and the average quantity exported from India accounts for more than 70 percent of the total production. The demand for black pepper and its products is increasing year by year in the world market but the production is not up to the level. At present the productivity in India is very low due to non-adoption of good agricultural practices (Thangaselvabal *et al.*, 2008)<sup>[3]</sup>. In 2016-17, India produces 57000 tons of Black pepper from 131230 ha area with a productivity of 3.66t/ha. (Spices Board India, 2016-17). There is also a massive decline in the production area of black pepper.

**Need of the hour**

Today is the era of rapid urbanization and modernization. Area under cultivation is decreasing in a rapid rate. Cities are entirely dependent on outskirts supplies of consumable products. Black pepper is a very costly spice crop. If can be grown in home and domestically processed, it can not only save a part of family income but can also help the surplus production to be exported in foreign countries. Considering all the above facts it can be considered that if black pepper can be grown in homestead conditions, it can easily serve the domestic requirement. The black pepper produced commercially can then be exported to earn havoc revenues.

**The technology**

Black pepper vines are usually cultivated by allowing them to climb on either living (on trees) or non-living (RCC posts, granite pillars, teak poles etc.) supports. Black pepper vines while climbing on these supports put forth fruiting branches called laterals which produce flowers and fruits. The normal way of producing planting material of black pepper is to use rooted cuttings (single or 3 nodded) of runner shoots or climbing shoots. This ensures that the plant turn into vine after climbing on a support and produce fruiting branches (Plagiotropes) all around the support. But when the laterals are used as planting material, the resultant plants grow like a “Bush”. These plants produce numerous laterals throughout the year, unlike vines. One-year-old healthy fruiting branches are selected with 3 to 5 nodes and all the leaves except the flag leaf are removed and planted in a shade area in the nursery,

either in trenches or in polybags (45x30cm) containing moist coir dust. Before planting, the cuttings are dipped in 1000 ppm of IBA for 45 seconds. After planting, the trenches are covered with polythene sheets and in the case of polybags, the mouth is tightly tied with coir thread to avoid moisture loss. They normally root in 30 to 50 days. Such rooted cuttings are planted in pots or fields after sufficient hardening treatment. Cuttings grow like a bush and flower in the same year itself. These bushes produce more and more of fruiting branches only. Adequate manuring i.e., 2 to 5 kg of FYM along with 10 kg of NPK 100:40:140 g mixture may be given per bush at 3 months interval. Watering and plant protection may be adopted according to necessity. Under average management a good bush pepper plant may yield 1.5 kg green pepper in a span of 2 to 3 years.

In South India a superior clone of cultivar 'Karimunda' has been identified and is widespread among the urban bush pepper growing community because of its high spiking intensity with recurrent bearing of two spikes per node of the lateral. Bush pepper also has an artistic and aesthetic value. Incorporation of bush pepper in the urban households will serve as a decorative for the home dwellers as well as gives a fairly good yield of 1 kg per year. Bush pepper produces leaves and spikes continuously, so there is availability of fresh pesticide free pepper throughout the year. Having 4 to 5 bush pepper plant in every household of urban areas is sufficient to meet up the requirement of pepper consumption by a family in a year. Maintenance of bush pepper is very easy. Occasionally they produce orthotropic shoots that have to be pruned. Controlling the spike behavior by pruning off the spikes will help revitalize bush pepper and speed up the vigour. Ensuring minimum water supply during sultry summer season, bush pepper can be easily grown in homestead.

### Home scale processing

Black pepper is not directly consumable, like most of the spick crop it needs some processing.

- 1. Black Pepper:** Harvesting should be done at fully matured stage when one berry in the cluster shows a sign of scarlet red colour. Harvested berries are then collected in bamboo baskets or in muslin cloth and dipped in boiling water for 7 minutes. This procedure is known as blanching which helps to restore black colour of berries. The berries which are dried without blanching result in development of brownish colour of berries, which gives impression of adulteration and results in low price. After blanching, berries are sun dried on a mat in a clean and dry place for 4-7 days. Berries are then separated from the cluster by hand picking or by trampling under clean feet. After that berries are separated by winnowing and packed in airtight containers. It should be kept in mind that moisture content should be less than 12% while packing. Recovery of black pepper from fresh berries is about 30-35%.
- 2. White Pepper:** In case of white pepper fully ripe or over ripe berries are selected. They are crushed lightly, filled in muslin bag and are soaked in slowly running water for 7-10 days, which helps in decomposition of berry skin. The skin is removed by rubbing the berries in sieves. After removal of skin, the berries are washed and are sun dried for 3-4 days to get white pepper. Recovery of white pepper is about 28% of fresh ripe berries.
- 3. Green Pepper:** Green canned pepper is preferred in European countries. Heat sterilization of green berries is

done and packing is done in cans in 2% brine solution. Tri bottled process, heating is avoided but a higher salt concentration of 15-20% as a covering liquid is done for good preservation.

### Conclusions

Growing of bush pepper in urban homes can not only serve the need of the daily household but can also save the huge cost of purchase of the spice. The pepper produced commercially which is actually the surplus of production can be exported to earn huge remuneration.

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