

**RAPID MULTIPLICATION  
OF  
BLACK PEPPER**



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## **The need for rapid multiplication**

For increasing the black pepper production in the country, large scale replanting of the senile and poor yielding vines and also extensive new planting are required. The improved varieties emerging from breeding programmes also need large scale multiplication to meet the demand. All these programmes require production of planting materials in the shortest time possible.

## **The conventional method**

The conventional method of production of planting materials in pepper involves use of 2-3 noded cuttings of runner shoots raised in polybags in the nursery. The disadvantages of the method are (i) need to have large quantities of planting materials (ii) low sprouting (iii) poor root development and (iv) poor field establishment.

A new method for rapid multiplication of pepper developed in the UNDP / FAO Project in Sri Lanka (KVA Bavappa and P. De. S. Gurusinghe, 1978. *J. Plant. Crops*, 6: 92-95) during early eighties was appropriately modified to suit conditions in our country.

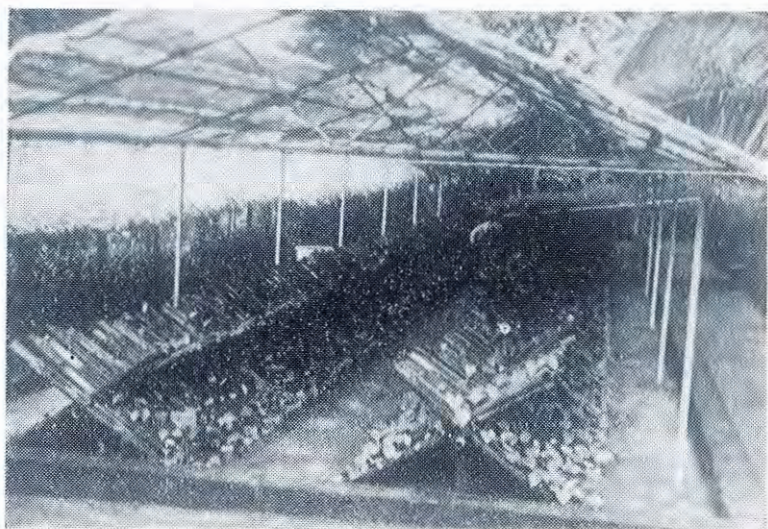
## **THE NEW METHOD**

Black pepper vines (both runner and terminal shoots) are grown over the rooting medium filled in a bamboo / PVC split piece. As the vines grow, the nodes get rooted and each of these nodes is later separated and planted in individual polybags.

### **How to do it ?**

Select a suitable area having good drainage. Provide shade either by putting coir mats (nursery mat) for a pandal or by growing shade trees like Subabul.





A view of the nursery

Take trenches 30 cm wide, 60 cm deep and of convenient length. Fill it with soil-sand-farmyard manure mixture (1:1:1). Add for every metre 1.5 kg lime and after 15 days 150 g urea, 100 g superphosphate, 125 g muriate of potash and 25 g magnesium sulphate. Water copiously and leave it for a week.

Select bamboos of 7-8 cm diameter, cut them into 1.5 m long pieces and split them into halves, keeping the septa intact. A coating of coal tar prolongs the life of bamboo pieces. Arrange the bamboos at an angle of 45° alternatively on straight wooden poles or strong support. Tie the bamboos with coir. Plant the rooted cuttings in the trench, one for each bamboo split. Instead of bamboos, split PVC pipes of approximately the same diameter fitted with artificial septa provided at 30 cm distance can be used.

As the vines start growing, fill the bamboo splits with rooting mixture composed of farmyard manure-coirdust-sand in equal proportions. Tie each vine carefully to the bamboo

using banana fibre, so that every node is in contact with the rooting medium. For rapid growth, if necessary add a nutrient solution consisting of urea (1 kg), super phosphate (0.75 kg), muriate of potash (0.5 kg) and magnesium sulphate (0.25 kg) in 250 litres of water. Drench each vine once in fifteen days with one litre of this solution.

When the vines reach the top of the bamboo, nip off the tip and crush the vine at the base of 3rd or 4th node from the ground, to activate the buds. After 7-10 days, cut the vine at the crushed point and remove it from the bamboo with the roots intact and with the adhering soil. Cut the vine into single noded pieces. Plant each piece in a polythene bag or sleeve (open at both ends) filled with the mixture consisting of soil-sand-farmyard manure (3 : 1 : 1). Keep the roots straight downward when planting.

Arrange the cuttings in a well shaded area or in a shed and give a spray of 0.2 % copper oxychloride or 1.0 % Bordeaux mixture. When buds start growing transfer them to a partially shaded area. Apply the fertilizer solution mentioned earlier for rapid growth. These cuttings will be ready for field planting after two months.

### Advantages of the method

After planting in the bamboo, the first crop of cuttings can be taken after 3-3½ months and the subsequent harvesting at every 2-2½ months.

Each rooted vine can give about 10 cuttings in one harvest and about 40 cuttings in a year. A multiplication rate of 1 : 40 can be achieved on an average. From one hectare plot an estimated 1.5-2.0 million rooted cuttings can be obtained in one year.

The nursery will form a perennial source for high quality planting materials.

## PRECAUTIONS

- \* Ensure adequate shade and drainage
- \* Give timely plant protection. Just before monsoon, spray with 1 % Bordeaux mixture. Apply Bordeaux paste to the basal portion of vines and drench the soil with 0.2% copper oxychloride. Apply Thimet 10 G @ 0.5 g or Furadan 3 G @ 1 g per vine thrice annually.
- \* Ensure that every emerging node is in touch with the rooting medium on the bamboo as it is crucial for rooting.
- \* Give protection against insect pests. An occasional spray with 0.05% dimethoate (Rogor) or monocrotophos (Monocil) can keep away shoot borer, thrips, mealy bugs and scales.