

Depending upon the spread one can harvest up to 1.5 kg green pepper/pot/ year.

PLANTING IN FIELD

Take pit of 50 cm³ and fill with mixture of 5 kg FYM or compost, 0.5 kg bone meal and fertile soil and plant rooted bush pepper plant without chances for water stagnation during rainy season. A spacing of 2x2 m is ideal for field planting. Give partial shade with shade net or shade plants and irrigate regularly. The plant is suited to grow in coconut garden spaced 7.5 meter and spacing recommended to the bush pepper is 2x1.8 meter.



These plants should be manured with 5 kg FYM or compost per year and with 20 gm urea, 25 gm each of super phosphate and muriate of potash at four monthly intervals. For enhancing growth of bush pepper, 2% solution of vermi wash or 0.5% solution of micro nutrient mixture can be given as foliar spray at monthly intervals. For protection against diseases these plants may be applied with 25-50 g of bio control agents like *Trichoderma* or *Pseudomonas* sp along with the FYM/Compost at six monthly intervals. Depending upon the growth and spread one can harvest 2-3 kg green pepper per plant.



Edited by: C.K. Thankamani
V. Srinivasan
S. Hamza
P.S. Manoj

Published by: Director, ICAR-Indian Institute of Spices Research
Kozhikode, Kerala, India- 673012

Designed by: A. Sudhakaran

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BUSH PEPPER



ICAR-Indian Institute of Spices Research
Kozhikode, Kerala

BUSH BLACK PEPPER

Black pepper (*Piper nigrum* L) is a perennial climbing vine grown for its berries extensively used as spice and medicine. India is one of major producer, exporter and consumer of black pepper in the World. Black pepper is a plant of humid tropics requiring adequate rainfall and humidity and hence mountainous tracts of Western Ghats are ideal for its cultivation.

To meet the internal consumption especially for domestic use, ICAR Indian Institute of Spices Research (IISR) has developed a technology suited for potted cultivation of pepper as a bushy plant. It can be grown in any place as a garden plant, in kitchen garden, roof terraces, and shade houses or in the field. The advantage is that it does not need a support for climbing. The normal way of producing planting material of black pepper is to use the rooted cuttings of runners or climbing shoots. But for bush pepper method the fruiting lateral branches are used as planting material

that grow as a bush. These bushes produce fruiting branches and the yield depends upon the growth and spread of the bush. In other words, green pepper throughout the year can be harvested irrespective of the season. Unlike pepper vine, harvest of mature spike from bottom of the plants enhances production of new shoot and spike.



PRODUCTION OF BUSHY PLANTING MATERIAL

Collect young healthy laterals preferably one year old from high yielding pepper vines in a bucket of water as a precaution against drying. It is better to avoid branches with tender leaves at the time of collection of lateral branches from the mother vine. Collection of cuttings at early morning or evening hours is better to avoid drying. These laterals should then be dipped in 0.2% copper oxy chloride solution for 20-30 minutes and pruned to 2-4 nodes with a sharp blade knife and dip in any one of the rooting hormone powder like IAA, IBA, rootex, Keradix etc. After tapping the excess powder, the lateral should be planted in a polythene bag (size 45x30cm) filled with well decomposed moist coir dust or any other such growing media. Before planting of cutting in polybags, cut half portion of leaf lamina to reduce excess moisture loss. About 3-4 such laterals may be planted in one bag depending upon the size and mouth of the bags to be tightly tied with a thread to avoid moisture loss from the bag and should be hanged in shade. This bag acts as a humid chamber for better rooting and survival. In 35-50 days these laterals produce 5-6 healthy roots. Then the cutting may be carefully taken out and planted in poly bags with nursery mixture containing soil, sand and FYM in equal proportion.

Rooting of cutting can be carried out in other direct ways also. The cut and treated branches can be directly planted in polybags (25 cm×15 cm size) filled with potting medium (1 part of soil, 1 part of sand/ coirpith and 1 part of FYM) watered and each bag is covered from the top of lateral with another polythene bags of preferably of the same size so that humidity retrives in these bags. These bags need to be kept in partial shade until good rooting is observed.

Alternatively humidity chamber can also be prepared in shaded areas away from direct sunlight using PVC pipe and polythene sheet and the polybags planted with lateral cuttings are kept inside these chamber until rooting. Irrigation is required as and when humidity inside the chamber observed to be very low. After about 2 months, these rooted laterals can be kept in partial shade upto 4-6 month. Alternatively they can be planted in field or earthen /plastic pot of size 10 inch or more.

Brazilian pepper (*Piper colubrinum*) is reported to have tolerance to Phytophthora foot rot disease of black pepper and can be used as root stock for producing grafted pepper plant. Here rooted cuttings of *Piper colubrinum* plants



having 2-3 months age can be used as root stock. Runners/ topshoots/ laterals etc can be used are scions. Grafting with lateral branches as scion with *Piper Colubrinum* will produce grafted bush pepper.

Any variety of black pepper can be made into a bush pepper plant. Sreekara, Subhakara, IISR-Thevam, Panniyur 1 to 9 are some of the varieties suitable for the purpose. These rooted bush pepper plant can also be purchased from IISR farm Peruvannamuzhi, Kozhikode or from other nurseries for direct planting.

PLANTING IN POTS

The rooted bush pepper plant produced or purchased can be planted in 12" earthen or plastic pots filled with potting mixture containing equal proportion of fertile soil, sand and FYM and can be kept in kitchen garden, roof garden or terraces with daily watering with exposure to partial sunlight. These plants should be manured and fertilized with 100 g FYM or vermi



compost per pot at six monthly intervals and 3 gm each of urea, super phosphate and muriate of potash or 5 gm of NPK mixture (18:18:18) at bimonthly intervals. Alternatively 10 g groundnut or neem cake can be given instead of NPK fertilizers at bimonthly intervals. In the case of purely organic bush pepper cultivation *Pseudomonas fluorescens*, *Trichoderma enriched* FYM/neemcake and neem based pesticides etc. can be used for pest and disease management.

