

Scientific cultivation of Bottle gourd

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Introduction:

Bottle gourd is a commonly grown vegetable in India. Bottle gourd (*Lagenaria siceraria*) chromosome number $2n = 22$. It is majorly grown in Ethiopia, Africa, Central America and other warmer regions of the world. The fruit of bottle gourd can be used as a vegetable or for making sweets and pickles. The fruit has a cooling effect; it is a cardiatic and diuretic. The fruit are variable in shape and size. Fruit may be long, oblong or round depending upon the variety. Immature fruits are consumed in a number of ways. Research is needed to survey other countries for their requirements and production of such marketable produce to the consumer according to their liking.

Soil

Bottle gourd can be grown on all types of soils but sandy loamy soils rich in organic matter with good drainage and the pH ranges from 6 to 7 is suited for bottle gourd cultivation. This crop requires a moderate warm temperature.

Season

June-July and December-January are suitable for sowing.

Seed rate

1.5 kg/ha.

Varieties

CO 1, Pusa Summer Prolific long, Pusa, Summer Prolific Round, Pusa Manjari, Pusa Megdoot and Arka Bahar, TNAU Bottle gourd Hybrid CO1.

Seed treatment

Treated with *Trichoderma viride* 4 g or *Pseudomonas fluorescens* 10 g or Carbendazim 2 g/kg of seeds before sowing.

Preparation of field

Plough the field to fine tilth and dig pits of the 30 cm x 30 cm x 30 cm size at 2.5 x 2 m spacing.

Sowing

Sow the seeds at the three seeds/pit and thin the seedlings to two/pit after 15 days.

Irrigation

Irrigate the field before dibbling the seeds and thereafter once a week.

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Application of fertilizers

Apply 10 kg of FYM (20 t/ha), 100 g of NPK 6:12:12 mixture/pit as basal and 10 g of N/pit 30 days after sowing. 2.5 kg/ha along with FYM 50 kg and neem cake @ 100 kg before last ploughing.

Drip irrigation

Install drip system with main and sub-main pipes and place the inline lateral tubes at an interval of 1.5m. Place the drippers at an interval of 60 cm and 50 cm spacing with 4LPH and 3.5LPH capacities respectively.

Field preparation

Form raised beds of 120 cm width and place laterals in the centre of bed.

Nursery raising

In hi-tech horticulture, plant 15 days old healthy seedlings raised in shade net houses. Raise the seedlings in protrays having 98 cells or in polythene bags. Transplant about 15 days old seedlings in the main field.

Fertigation

Apply a dose of 200:100:100 kg NPK/ha throughout the cropping period through split application.

After cultivation

Weeding can be done by hoeing as and when necessary. Fruit rot during rainy season can be checked by training the plants over the bamboo stick or dried branches.

Plant protection

Pests

- For Leaf miner – *Liriomyza trifolii*
- Red pumpkin beetle - *Aulacophora foveicollis*
- Aphids- *Aphis gossypii*
- Thrips- *Thrips palmi*
- White fly - *Bemesia tabaci*
- Pumpkin caterpillar – *Diaphania indica* and
- Fruit fly- *Bactrocera cucurbitae*

Control

Mites: Spray dicofol 18.5 % SC @ 2.5 ml per litre of water.

Aphid: Spray Imidachloprid @ 0.5 ml/lit along with sufficient quantity of stickers like Teepol, triton X100, apha etc., for better adhesion and coverage.

Beetles, fruit flies and caterpillars

Beetles, fruit flies and caterpillars can be controlled by spraying Malathion 50 EC 1 ml/lit. or Dimethoate 30 EC 1 ml/lit. or Methyl demeton 25 EC 1 ml/lit.

- Do not use DDT, copper and sulphur dust as these are phytotoxic.

Powdery mildew

Powdery mildew can be controlled by spraying Dinocap 1 ml/lit. or Carbendazim 0.5 g/lit or Tridemorph 1 ml/l.

Downy mildew

Downy mildew can be controlled by spraying Mancozeb or Chlorothalonil 2 g/lit. twice at 10 days interval.

Harvesting

Fruits are harvested at tender stage and before 100 % maturity.

Yield

The average yield of bottle gourd is 20 tonnes/ha.

Hybrid

Yield of hybrids recorded 75-80 t/ha in 135 – 175 days.

