DOLICHOS BEAN
(***Dolichos purpureus*** L.)

Dolichos bean, also known as Hyacinth bean or Indian bean is an important vegetable grown throughout the north eastern hill region. It is popularly known as Sem. The pole types are grown in homestead by trailing to bower for its tender fruits which are used as cooked vegetable. It is a nutritive vegetable grown for the consumption of green pods; green seeds and dry seed as pulse also. Green pods contain 6.7g carbohydrates, 3.8g protein, 1.8g fibre. 210mg Ca, 68.0mg phosphorus, 1.7mg iron per 100g edible portion. It is also used as feed and green manure.

Cultivars

Pole type: Pusa Early Prolific, JDL series.
Bush type (photo-insensitive): Arka Jay, Arka Vijay, Konkan Bhushan and RCDL-IO,

Climate and soil

It is well adapted to tropical and subtropical regions. High temperature and humidity favour plant growth, whereas fruiting starts when the temperature and humidity are 10\\ generally with the onset of winter and continues throughout spring. Dolichos bean grows well on a wide range of soils. Sandy loam, silty loam and clay loam are best suited.

Field preparation

Field should be prepared thoroughly before sowing; 2-3 deep ploughing are needed to make the soil friable.

Seed rate

Pole type-10-12 kg/ha; Bush type-20-30 kg/ha

Sowing time

Under Meghalaya conditions, it can be sown in July -August. It can be sown early in areas where rains come earl)'_

Spacing

Pole type- 100 x75cm; Bush type- 60x30cm

Seed inoculation

In fields where beans are grown for the first time, inoculation of seed with Rhizobium spp. facilitates quick nodulation on the roots, and help in the fixation of atmospheric nitrogen,

Manure and fertilizer

About 25t1ha of FYM should be applied to the soil at the time of land preparation. Application of 20 kg N, 60 kg P_20_5 and 60 kg K_20/ha is recommended. Half of N along with entire dose of P and K fertilizer should be applied at sowing time. The remaining half dose of N should be top dressed 30 days after sowing.

Intercultural operation

Weeding- Weeds may be controlled mechanically or by using weedicides. Pre sowing application of Fluchloralin @ 2litre/ha check the weed growth for 20-25 days.

Staking- Pole type Dolichos bean need support, since the plants have twinning growth habit. The plants should be trained on thin bamboo stakes for better growth and fruit set. In hills twigs and branches can also be used to give a good support.

Irrigation- Light irrigation is given when required. For higher yield the crop should be irrigated regularly at 7 -10 days interval. Flowering and pod development period are the critical stages.

Plant protection measures

Powdery mildew (*Erysiphe polygoni*): Small, white, circular powdery spots appear on upper surface of leaves which gradually cover entire leaves, stem, petiole and pods ultimately resulting in death of plants.

Spray with 0.5% wettable sulphur or with benlate or Bavistin 0.15%.

Rust (*Uromyces fabae*): Yellow spots appear on leaves, petioles and stem on early stage. In heavily affected crops, the yield is also reduced.

Cultivation of resistant variety and spraying the crop with wettable sulphur 3g/l or Dinacap l ml/l can control this disease.

Aphids (*Aphis craceivora*): These are very small insects and infest the leaves, stem and pods and suck the cell sap. The infested parts dry up and there may not be any pod formation.

Application of granular insecticides i.e. Phorate or Aldicarb l0G @ 1 0-15kg/ha at the time of sowing is found effective. Spraying of Endosulfan 35EC @ 2ml/l of water also effectively control the pest.

Harvesting:

In bush type, the crop is ready for harvest two months after sowing and only 2-3 picking are obtained. In pole type, it takes 3 months for first harvest with 9-10 picking at 7 days interval. Fully grown immature pods are harvested.

Yield

On an average 3-5 tonnes/ha green pods are obtained from a hectare.