

FRENCH BEAN *(Phaseolus vulgaris)*

French bean is one of the most important leguminous vegetable crops of North eastern region. It is cultivated for the tender vegetable, shelled green beans and dry beans (rajmah). It is very rich in protein, vitamins and minerals. French bean is a short duration crop and farmers get more profit in a short period. In this region, it is cultivated in rice fallow during spring summer and on hill slopes during autumn winter season. It has possibility to be grown round the year in this region where irrigation facilities are available during dry period.



Varieties

The French bean varieties are classified in two group's viz. Dwarf or bush types and Climbing or pole types. The varieties found suitable for this region are as follows.

Dwarf types- Contender, Pusa Parwati, Pant Anupama, Arka Komal, Selection-S
Climbing types- Kentucky Wonder, RCMFB-1

Soil and climate

French bean is grown during winter in plains, while it can be grown round the year except winter in hilly regions. Although it can be grown on all types of soil, but loams and clay loams are best for obtaining high yield. The soil and climatic conditions of this region is highly suitable for cultivation of French bean.

Field preparation

For preparation of field, soil is ploughed 2-3 times with power tiller or with spade. Planking is done during the last ploughing to make friable soil bed for sowing.

Seed rate

About 50-75 kg/ha would be required for dwarf bean, whereas for pole type the seed rate is about 25 kg/ha.

Sowing time

French bean can be sown twice a year, in January-February and July-September in the plains and March to June in the hills.

Sowing and spacing

Dwarf or bush types are sown with the spacing of row-to-row 40-50 cm and plant-to-Plant spacing of 10 cm while pole type, at 60-65 cm x 10-12 cm. The seed should be sown at 2- 3 cm depth in soil.

Manures and fertilizer

FYM or compost @ 30 t/ha and NPK @ 60: 120:50 is incorporated in the soil during soil preparation. Half dose of nitrogen and full dose of phosphorus and potash are applied at the time of sowing and remaining half dose of nitrogen should be applied after one month of sowing.

Staking

Pole type cultivars of French bean grow well on support made of cane frames. They are also supported by erecting wooden poles connected with strings.

Plant Protection Measures

Bean, anthracnose: Use of healthy seeds, clean cultivation and avoidance of overhead irrigation are cultural management for control. Sulfur fungicides like Thiram, DithaneZ-78 and the systemic fungicide like Benlate or Bavistin@ 2 g/l of water should be used.

Leaf Spot: Circular to angular spots with gray center and reddish border appear on leaves. They gradually cover the entire leaf surface as more number of spots appears. Spraying with copper fungicide @ 3-4g/l or Thiram@ 2g/l at 12-15 days interval can control the disease.

Powdery mildew: White powdery spots develop on both sides of the leaves and other parts of the plant except roots. In severe infection defoliation occurs. Diseased plant debris should be collected and destroyed. Crop should be sprayed with wettable sulphur or Karathane@ 0.2% or Benlateor Bavistin@ 0.1 %.

Aphid: The tiny insects are gray or black in colour, which suck the cell sap of the tender parts of the plant, mostly the leaves. When the insects are abundant, they attack the developing pods causing reduction in growth and yield. Application of granular insecticides i.e. Phorate or Aldicarb OG at the rate of 10-15 kg per hectare or Carbofuran 3G at the rate of 30- 33 kg per ha at the time of sowing should be done. Spraying of Endosulfan35 EC at the rate of 2 ml/l of water or BHC 50 % wettable powder at the rate of 1-2 g 11 of water can also effectively control the pest.

Pod borer: They first feed on the surface of the pods, bore into them and feed on the seeds. Spraying of Endosulfan at the rate of 2 ml/l of water can control this pest effectively.

Bean weevil: This pest infects seeds in the store, and damages the quality both for consumption and sowing purposes. It can be controlled by fumigating the material under airtight condition with Phosphine gas available in the form of tablets, e.g., Celphos, Phosfume etc. It should be applied at the rate of 1-2 tablets per tonne of material or per cubic meter of space.

Bean beetle: Both adults and larvae feed on all parts of the plants. Spraying of Malathion 0.1 % checks the menace.

Harvesting and yield

Pods are harvested when they attain full size and are crisp.

A yield of 10-20 tons/ha can be obtained from a good crop.