

COWPEA

[*Vigna unguiculata* (L.)Walp]

Cowpea, also known as black eyed pea is one of the important leguminous vegetable. It is a typical warm season crop adapted to tropics. It is cultivated for its long, green or purplish pods to be cooked as vegetable or for dry seeds used as pulse. Due to its nutritive value and soil improving properties, it is also used as a fodder, green manure and cover crop. Being a legume crop cowpea fits well in intercropping system. It has a wide range of ecological adaptation and can be more widely grown. The pods are rich in protein, vitamin and minerals.



Cultivars

Bush type: Pusa Phalguni, PusaKomal, PusaRituraj.

Pole type: RCCP-I, Arka Garima, Kashi Kanchan.

Climate and soil

It is a warm season crop and can be grown in all tropical and subtropical areas. It can tolerate drought to some extent. The crop thrives best between 21-35°C temperatures. Frost is harmful to this crop. Well drained loam or slightly heavy soils are better.

Field preparation

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

Seed rate

20-25 kg/ha for spring season crop; 12-15 kg/ha for rainy season crop.

Sowing time

Under Meghalaya conditions cowpea is sown during January- February for edible pods and August for seed production.

Spacing

Pole type- 60x45 cm; Bush type- 40x20 cm

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

FYM @15-20t/ha may be incorporated in the soil at the time of field preparation.

Being a nodule forming crop, cowpea does not require heavy nitrogen fertilization. Thus, only 20-25 kg/ha N along with 50-70 kg/ha P₂O₅ and K₂O may be applied as basal dose before sowing.

Intercultural operation

Weeding- Effective weed management in first 25-30 days of the crop period is essential. At least 2 weeding and hoeing are needed to check the weeds. Fluchloralin @ 1 kg/ha as pre plant incorporation is effective in controlling the weeds.

Staking- Pole type cowpea need support, since the plants have twinning growth habit. The plants should be provided a suitable support with bamboo sticks. In hills twigs and branches can also be used to give a good support.

Irrigation- Cowpea requires light but frequent irrigation. During rainy season no irrigation may be required but in absence of timely rains supplemental irrigation may be needed. Flowering and pod development period are the critical stages.

Plant Protection

Bean anthracnose (*Colletotrichum lindemuthianum*): Most severe in high rainfall subtropical to temperate areas. Black sunken cankers with light coloured or grey central appear on pods.

Use of healthy seeds, clean cultivation, avoidance of overhead irrigation is some cultural management. Use of Thiram, DithaneZ- 78 @ 2 g/l of water has been found effective for controlling this disease.

Angular leaf spot (*Isariopsis griseola*): Reddish brown angular lesions appear mostly on lower surface of leaves

Spraying with copper fungicide @ 3-4 g/l or Thiram @ 2 g/l at 12-15 days interval can control the disease.

Aphids (*Aphis craccivora*): These are very small insect 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 10 G @ 10-15 kg/ha at the time of sowing was found effective. Spraying of Endosulfan 35 EC @ 2 ml/l of water also effectively control the pest.

Pod borer (*Heliothis armigera*): The caterpillar first feed on the surface of pods, bore into them and feed the seeds.

Collect and destroy infested pods and the larvae. Spray Endosulfan or Carbaryl 2 g/l at flowering to control pod borer.

Harvesting

Tender pods are harvested for marketing. Harvesting should be done before the pods mature and become fibrous. Harvesting starts 45 days after sowing. In all, 3-4 pickings are done in bush type and 5-6 pickings in pole type.

Yield

Pole type yield 110-140 q/ha; Bush type yield 50-60 q/ha.