

LENTIL

(*Lens esculentum* or *Lens culnaris*)

Family: Leguminaceae

Origin: Egypt, Asia Minor

Area: UP> MP> Bihar

Production: UP> MP> Bihar

Classification: Broadly classified into-

- Small seeded- Masuri, Microsperma (are predominantly cultivated in India)
- Bold seeded- Masur, Macrosperma (are large sized grains cultivated in Mediterranean region)



Importance:

- Consumed as dry seed
- In India as flour, dal (boiled, smashed in to soup), several snacks and sweets
- Rich source of calcium, phosphorous and iron
- Protein 24-26%
- Also rich in vitamins

Soil: Lentil crop is well cultivated in light loam and alluvial soil. Lentil does not tolerate flooded or waterlogged soils, and does best on deep, sandy loam soils high in phosphorus and potassium. Good drainage is required, because even short periods of exposure to waterlogged or flooded field conditions kill plants. A **soil pH** near **7.0** is best for lentil production.

Climate: As the crop requires very cool climate it is cultivated in winter season. It can tolerate severe winter and frost condition also. Excessive drought and/or high temperatures during the flowering and pod-fill period can reduce yields.

Varieties: JL-3, Pant L-639, 209, 406, IPL-81, DL-62, Lens 4076

Sowing time: Last week of October to second week of November

Seed Rate: 30-40 kg/ha (in late condition- 50-60 kg/ha)

Spacing: 30 x 5 cm and Sowing depth: 3-5 cm

Irrigation: 1-3 irrigations

Critical Stages:

- Flower initiation stage (40-45 DAS)
- Pod formation stage

Nutrient Mangement: N:P:K @ 20:50:20 kg/ha at sowing time in furrow and spraying of ZnSO₄ (0.5%) + Lime (0.25 %) in standing crop

Weed Management: Fluchloralin @ 1 kg a.i./ha followed by one hand weeding at 30 DAS.

Lentil is intercropped with wheat, barley, linseed, safflower etc.

Harvesting: Lentil is harvested after 100-120 DAS

Yield: The crop produces 8 – 9 quintals/ha under rainfed and 18-20 quintals/ha under irrigated condition with good fertilizer management.

PEA

(*Pisum sativum*)

Family: Leguminaceae

- Garden Pea or Table Pea: (*Pisum sativum* Var. *hortenge*) used mostly in vegetable; generally white flowers
- Field Pea or Grain Pea: (*Pisum Sativum* Var. *arvense*) mature seeds used as dal, also grown as forage or green manuring crop, generally coloured flowers
- **Garden pea**
 - Flowers auxiliary, long peduncle, raceme with 1-2 flowers
 - Pods are variable length and breadth, curved/ straight
- **Field pea**
 - Flowers are purple or lavender colored
 - Short peduncle
 - Seeds smaller than garden pea, angular

Pea crop contains 22 per cent protein, 60 per cent carbohydrate and 1.8 per cent fat

Origin: Mediterranean region of Europe & West Asia

Area: UP> MP

Production: UP> MP

Soil:

- All types of soil
- Well drained soil is more suitable since sensitive to salinity and alkalinity

Field preparation:

- On heavy soils rough seed bed is suitable
- Medium tillage is sufficient

Season:

- NW Plains – end of October
- NE Plains – Second fortnight of November
 - Soil moisture availability decides the time
 - Delay in sowing end with terminal drought

Seed Rate: 100-150 kg/ha

Seed treatment: Captan/ Thiram 2.5 g + Rhizobium leguminosarum 10g per kg seed

Spacing: 30 x 5-7 cm

Irrigation: 1-2 irrigations

Critical stages:

- Flower Initiation stage (40-45 DAS)

- Pod filling stage (70-80 DAS)

Varieties:

- Field pea- Rachana, Aparna, Ambika, T-65, 163, Hans, KP-885, Pant C-5
- Garden pea- Arkel, Bonvilley, Early bajer, Early December, T-19, 59, Pant mater-1,5,6,8, Ajad mater-1, Pant Uphar

Nutrient Mangement: 20:50:30:40 kg NPKS/ha at sowing time

Weed Management: Two hand weedings at 30 and 45 days after sowing

Harvesting: Pea is harvested when stems and pods turn straw colour or light brown and seeds are hard and rattle within pod

Yield:

- Field pea/ Grain pea- 15-20 qt/ha
- Garden pea/ Table pea- 80-100 qt/ha