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Course name :

**Crop Production Technology-II
(ASAG 2204)**

Course credit :

(2-1-0)

Lecture 8

Topic: Field pea



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Field pea

Local Name :

Family :

Botanical Name :

Origin :

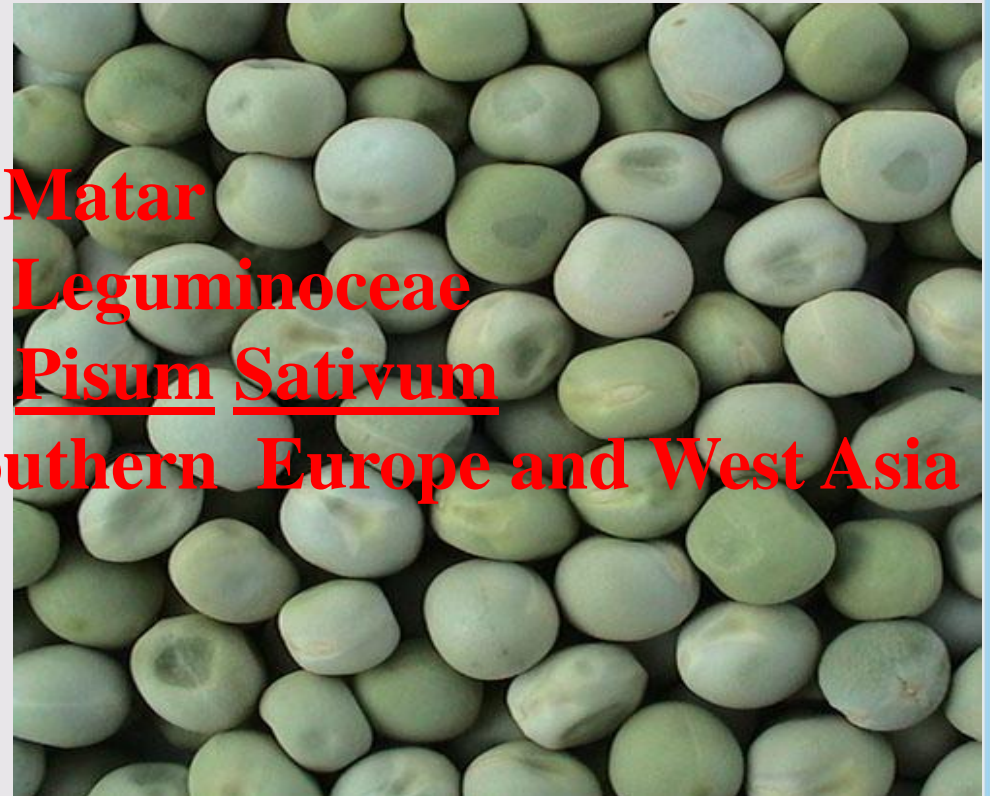


Matar

Leguminoceae

Pisum Sativum

Southern Europe and West Asia





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8.1 Economic Uses of Pea

- 1.1.1. Green pods of peas are fried with salt and seeds are eaten.
- 1.1.2. Matured seeds are used as vegetable or mixed in other food articles like pulav, mixed vegetables etc.
- 1.1.3. **Husk and grinded seeds** are fed to cattle.
- 1.1.4. Used as **Dal in India**
- 1.1.5. Green Peas are **canned, frozen and de-hydrated.**
- 1.1.6. It is also grown as mixed crop with oat and used as a fodder.

8.2 COMPOSITION OF 100g DRIED SEED/GRAIN

PROTEIN	22.5 g
FAT	1.8 g
CARBOHYDRATES	62.1 g
Ca	64 mg
IRON	4.8 mg
Riboflavin	0.15 mg
Thimin	0.72 mg
Niacin	2.4 mg
Moisture	11g



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8.3 AREA AND DISTRIBUTION

- ◎Pea growing countries are China, India, Ethiopia and USA.
- ◎Globally it is cultivated in 6.18 mha of area with a production of 10.48 mt.
- ◎China ranks 1st in area and production of pea.
- ◎In India UP ranks first in area, production.
- ◎UP, MP, and Bihar are the major pea producing states.
- ◎In India, 0.76 mha area is cultivated with a production of 0.67 mt.
- ◎Productivity in India: 866 kg/ha⁻¹.



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8.4 CLASSIFICATION

- ◎ Two types of pea are generally cultivated all over the globe.
- ◎ Garden pea (*Pisum sativum* var. *hortense*)
- ◎ Field pea (*Pisum sativum* var. *arvense*)

8.5 Difference between

Garden pea / Table pea	Field pea
Young green seeds are mostly used in vegetables and for canning.	Mature seeds are used as pulse.
Seeds are bold and wrinkled.	Seeds are round and little angular.
White flowered.	Generally flowered. Many colours
Seeds are yellowish, whitish or green.	Seeds are greyish green, greyish brown or greyish yellow.



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- **8.6 Field pea**
- also grown as forage or green manure crop.
- They are hardy plants and grown without irrigation.
- **8.7 Climatic Requirement for Cultivation of Pea**
- Pea is a cool and dry season crop.
- For germination, about 22⁰C temperature is considered favourable.
- High temperatures are more injurious to pea crop than frosts.
- Optimum monthly temperature suitable for growth is 13-18 ⁰C.



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1.8 Soil Requirement for Cultivation of Pea

- Pea crop can be grown in medium to heavy soils.
- It grows best in well drained loose heavy soil.
- It can not be grown in alkaline soils.
- Optimum pH 6.5-7.5
- Highly sensitive to water logging.



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8.9 Varieties of Field Pea

JP 885, Sikha (KFP 103), Alankar (DMR 7), Uttara (HFP 8909), Swapna (KPMR 144-1), Jayanti (HFP 8712), Malviya Matar (HUDP 15), Swati (KFPD 24), Pusa Prabhat, Ambika, Pusa Pana (DDR 27),

8.10 CROPPING SYSTEMS

- Maize – Field pea
- Rice – Field pea
- Cotton – Field pea
- Sorghum – Field pea
- Pearlmillet – Field pea



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8.11 SEEDS AND SOWING

- **second fortnight of October** is the optimum time for sowing of field peas in North India - **Field pea.**
- **First fortnight of november** is the optimum time for sowing of field peas in North India - **Garden pea.**
- Sowing after October results in reduction in yields.
- **Seed rate : 60-80 kg/ha**
- **Spacing : 30 X 10 cm**
- Seed treatment with Thiram or Carbendazim@ 2.5 g/kg of seed before sowing
- Inoculation of seed with Rhizobium (7 days after chemical fertilizer)



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8.12 NUTRIENT MANAGEMENT

- **5-15 t/ha of FYM.**
- **20-30 : 60-70 : 30-40 N:P₂O₅:K₂O Kg/ha.**

8.13 WATER MANAGEMENT

- Crop is mostly grown under **un-irrigated areas.**
- It can **tolerate drought condition** to some extent.
- **1st irrigation** should be given at **45 DAS** and **2nd at pod filling stage.**
- **Light and uniform irrigation** should be given.
- Water logging conditions leads to considerable loss in the yield since this crop is highly sensitive to poor drainage conditions.
- **Poor drainage leads to reduction in number of branches and pods per plant.**



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8.14 WEED MANAGEMENT

- Critical period for weed competition is 35-50 DAS
- Later on crop itself checks the growth of weeds
- Major weeds are *Chenopodium album* , *Lathyrus* spp., *Melilotus alba*
- Weedicides like fluchloralin, (0.75 kg/ha in 800-1000 litres of water) and tribunal may be used

8.15 Important Pests of Pea

- 1.15.1 Pod borer
- 1.15.2 Aphids
- 1.15.3 Leaf miner

8.16 Important Diseases of Pea

- 1.16.1 Powdery mildew
- 1.16.2 Wilt and Root rot
- 1.16.3 Rust



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8.17 Harvesting

- ◎ Pod becomes ready for harvesting in about **100 to 120 days after sowing.**
- ◎ Green pods are harvested results in reduction of market value.
- ◎ Delayed harvesting results in reduction of market value.
- ◎ Pods are hand-picked.
- ◎ Harvesting is done 3 to 4 times during the season.
- ◎ For matured grains harvesting is done when leaves begins to turn yellow.

8.18 Yield

- ◎ Average Yield is **800 to 1000 kg/ha.**