

The background of the slide is a close-up photograph of pea plants. On the left, there are green pea pods attached to a vine with leaves. On the right, there is a dense field of bright green, oval-shaped pea seeds.

DISEASES OF PEA CROP

Session-8

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MAJOR DISEASES OF PEA (*Pisum sativum*)

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FUNGAL DISEASE	
RUST	<i>Uromyces fabae</i>
DOWNY MILDEW	<i>Peronospora pisi</i>
SEEDLING BLIGHT	<i>Pythium sp.</i>
FOOT ROT OR BLIGHT	<i>Aschochyta blight</i>
LEAF SPOT	<i>Cercospora cruenta</i>
POWDERY MILDEW	<i>Eryshipe polygoni</i>
VIRAL DISEASE	
MOSAIC	Mosaic virus



SYMPTOMS
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RUST OF PEA

The urediosori appear on both the surface of leaf.

- They are small , oval to round in shape and light brown in colour.
- In sever case the sori cover all the part of maximum area of leaf.
- Later stage the infected leaf become wither and fall prematurely.
- As the crop mature telia occur in both leaf and stem.
- The telia is dark brown in colour.
- Acia and pycnia produced in same host

PATHOGEN:*Uromyces fabae*

[subdivision-Basidiomycotina,order-Uredinales,Family-Pucciniaceae]

- The rust is the autoecious macrocyclic rust,complect total life cycle in pea.

DISEASE CYCLE:

Primary infection occur through the pathogen i.e.urediospore and teliospore present in alternate host like bean,lentil,sweet pea etc.

CONTROL

Grow rust –resistance variety.



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RUST SYMPTOM





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DOWNY MILDEW OF PEA

Systemic infection:

- Early infection causes systemic infection in plants that are a sickly yellowish-green and severely stunted and distorted.
- Infected plants may turn chlorotic while producing an abundant source of spores for secondary infections.

Localized infection:

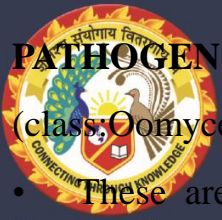
- Secondary infection is localised in upper leaves, stems, tendrils and pods and results in the appearance of isolated greenish-yellow to brown blotches on the upper leaf surface.
- In the lower surface downy growth of fungus appear .
- In the sever condition leaves dry up and premature defoliation occur.



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DOWNY MILDEW SYMPTOM





PATHOGEN: *Peronospora pisi*

(class:Oomycetes,order:Peronosporales,Family:Peronosporaceae)

- These are obligate biotrophic plant pathogens.

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They parasitize their host plants as an intercellular mycelium using haustoria to penetrate the host cells.

- The downy mildews reproduce asexually by forming sporangia on distinctive white sporangiophores usually formed on the lower surface of infected leaves.

- The sporangia may then germinate by forming zoospores.
- The oospores act as the resting spore .

DISEASE CYCLE

- The fungus that causes downy mildew survives in the soil and on pea trash and can be seed-borne.
- Infected seed can act as a primary source for systemic and local infections.
- Secondary source of infection through zoospore.

FAVOURABLE CONDITION

- The disease can develop quickly when conditions are cold (5 - 15°C) and humid over 90 per cent for 4 - 5 days, often when seedlings are in the early vegetative stage.

CONTROL

Remove the infected plant from the field.



Symptoms
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POWDERY MILDEW

• White floury patches appear on both side of leaves as well as tendrils, stem, pods etc.

- As the plants become older, the symptoms almost cover the entire plant, become more or less greyish-brown and infected parts impart dirty appearance.
- Premature defoliation of leaf occur.

Causal organism: *Eryshipe polygona*

Sub-division: Ascomycotina

Disease cycle

- **Primary infection:** Ascospores
- **Secondary infection:** By windblown conidia.

Favourable conditions

- Dry weather low humidity favourable for disease development.

Management

- Clean cultivation of vines or removal and destruction of all diseased parts.
- Spray wettable sulphur @0.3% or karathane or calixin @0.2%



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POWDERY MILDEW

