



**FACULTY OF AGRICULTURAL SCIENCES AND ALLIED INDUSTRIES**

**DISEASES OF FIELD CROPS PPA - 301**

## LECTURE 13

### 1. Seedling blight - *Phytophthora parasitica*

#### Symptoms

The disease appears circular, dull green patch on both the surface of the cotyledon leaves. It later spreads and causes rotting. The infection moves to stem and causes withering and death of seedling. In mature plants, the infection initially appears on the young leaves and spreads to petiole and stem causing black discoloration and severe defoliation.



#### Pathogen

The pathogen produces non-septate and hyaline mycelium. *Sporangiophores* emerge through the stomata on the lower surface singly or in groups. They are unbranched and bear single celled, hyaline, round or oval sporangia at the tip singly. The *sporangia* germinate to produce abundant *zoospores*. The fungus also produces *oospores* and *chlamydospores* in adverse seasons.

#### Favourable Conditions

- Continuous rainy weather.
- Low temperature (20-25°C).
- Low lying and ill drained soils.

#### Disease cycle

The pathogen remains in the soil as *chlamydospores* and *oospores* which act as primary source of infection. The fungus also survives on other hosts like potato, tomato, brinjal, sesamum etc. The secondary spread takes place through wind borne *sporangia*.

#### Management

- Remove and destroy infected plant residues.
- Avoid low-lying and ill drained fields for sowing.
- Treat the seeds with thiram or captan at 4g/kg.