



DISEASE OF FIELD AND HORTICULTURAL CROPS – I

SESSION 15 MUNGBEAN & URDBEAN

Important Diseases

❖ Major Diseases

1. Cercospora leaf spot - *Cercospora canescens*
2. Anthracnose - *Colletotrichum lindemuthianum*
(*Glomerella lindemuthianum*)
3. Web blight - *Rhizoctonia solani*
4. Yellow mosaic - *Mungbean yellow mosaic virus*

❖ Minor Diseases

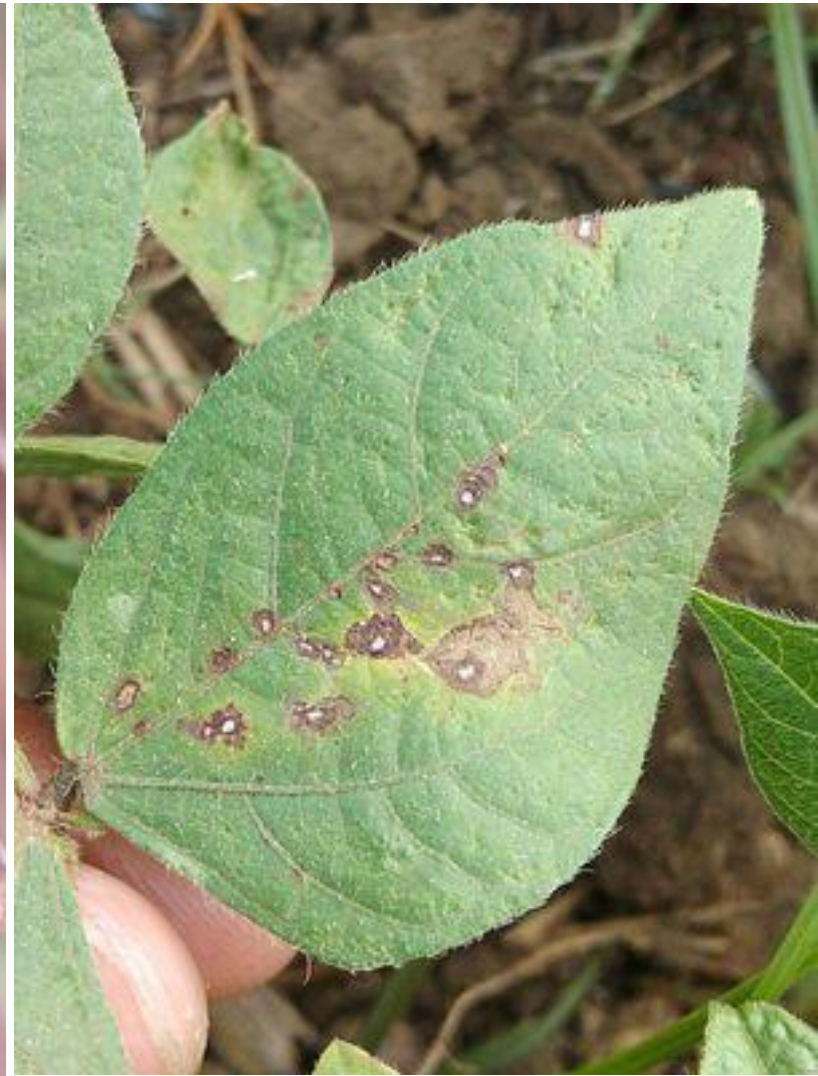
1. Powdery mildew - *Erisiphe polygoni*
2. Rust - *Uromyces phaseoli typica*
3. Leaf crinkle - *Leaf crinckle virus*
4. Dry root rot - *Rhizoctonia bataticola*

Cercospora leaf spot

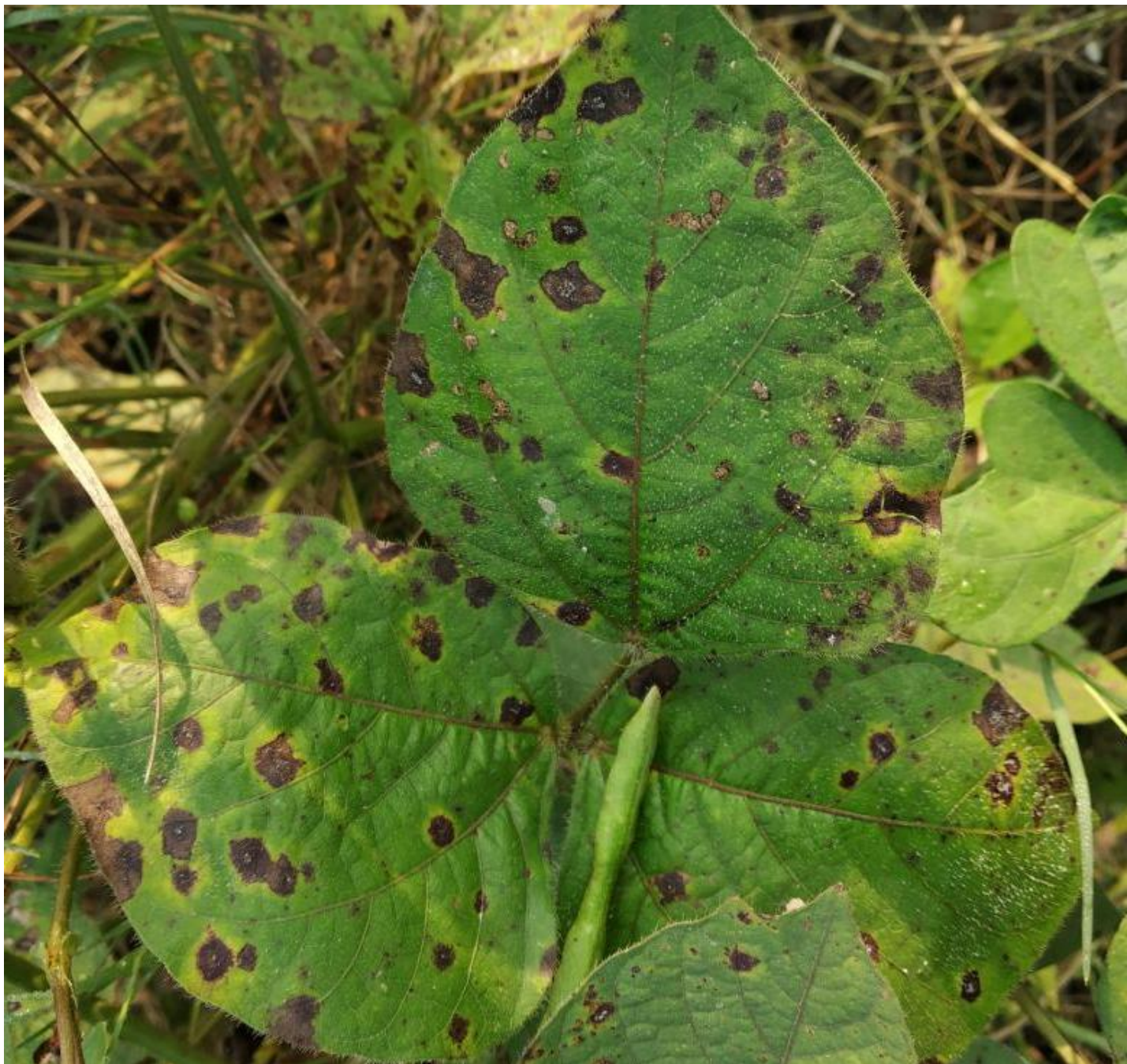
❖ *Cercospora canescens*

❖ Symptoms

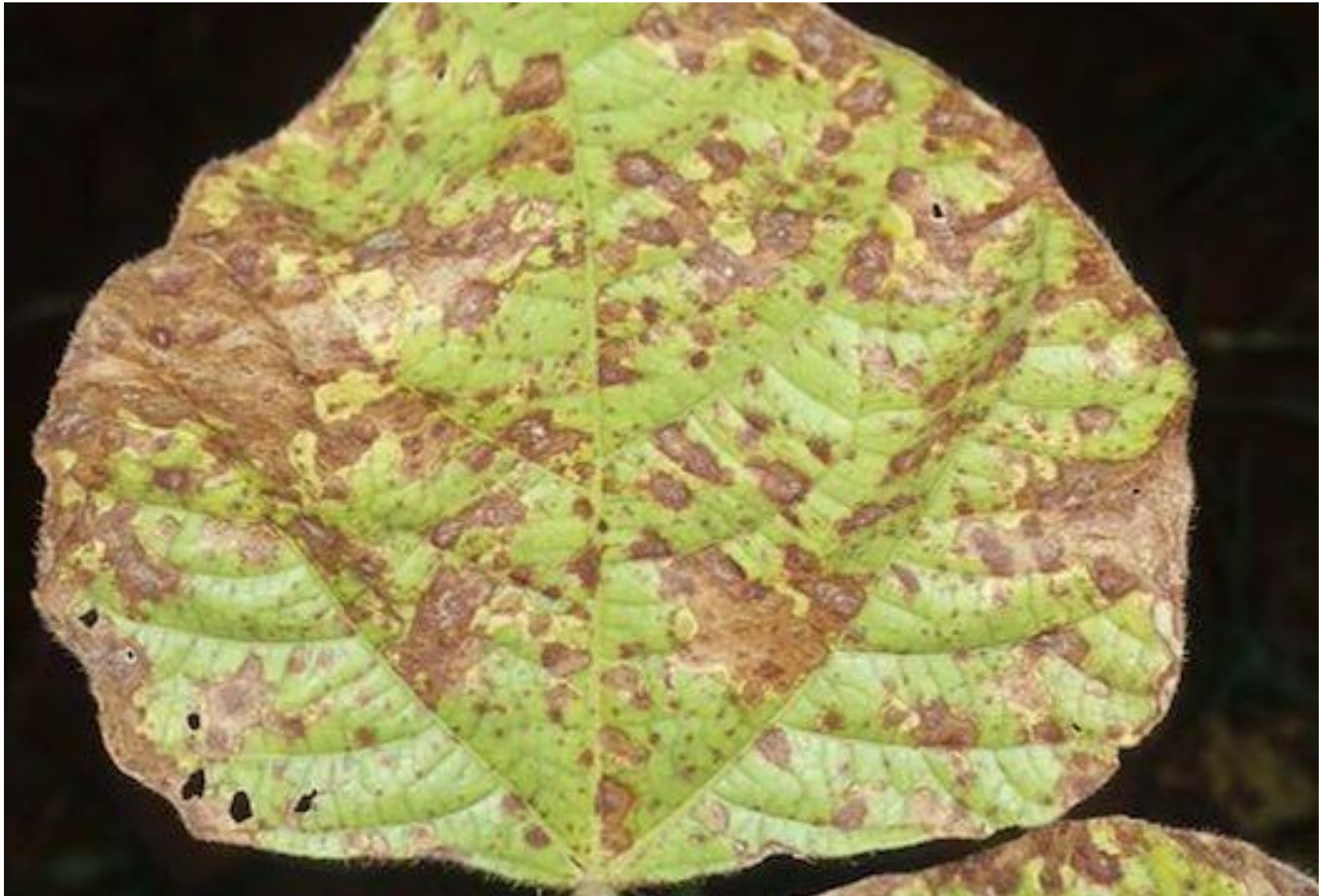
1. Small, circular spots develop on the leaves with grey centre and reddish brown margin.
2. Spots coalesce to form brown irregular lesions.
3. Defoliation
4. The brown lesions on petioles, branches and pods.
5. Powdery growth of the fungus may be seen on the centre of the spots.



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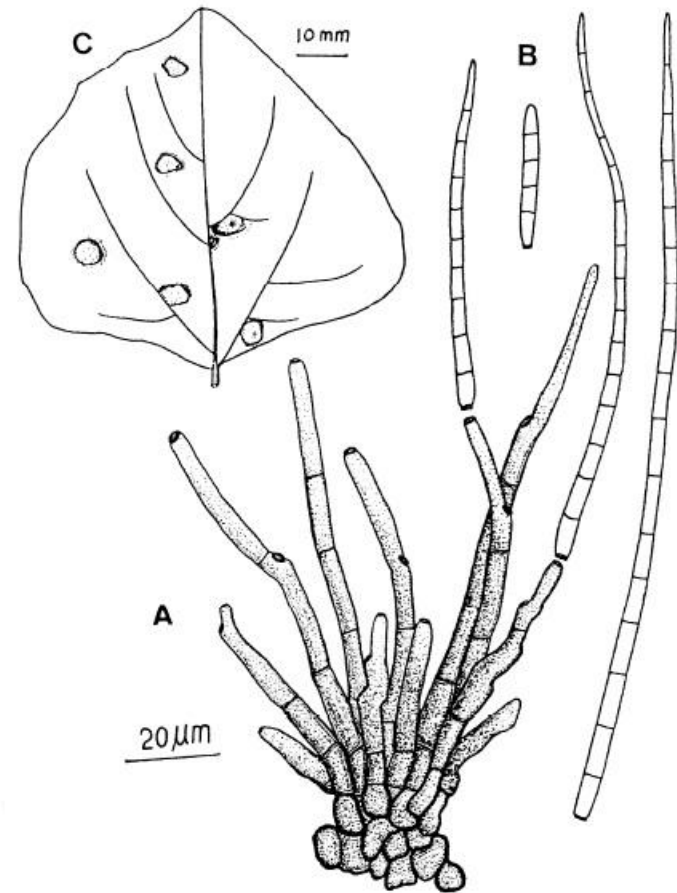
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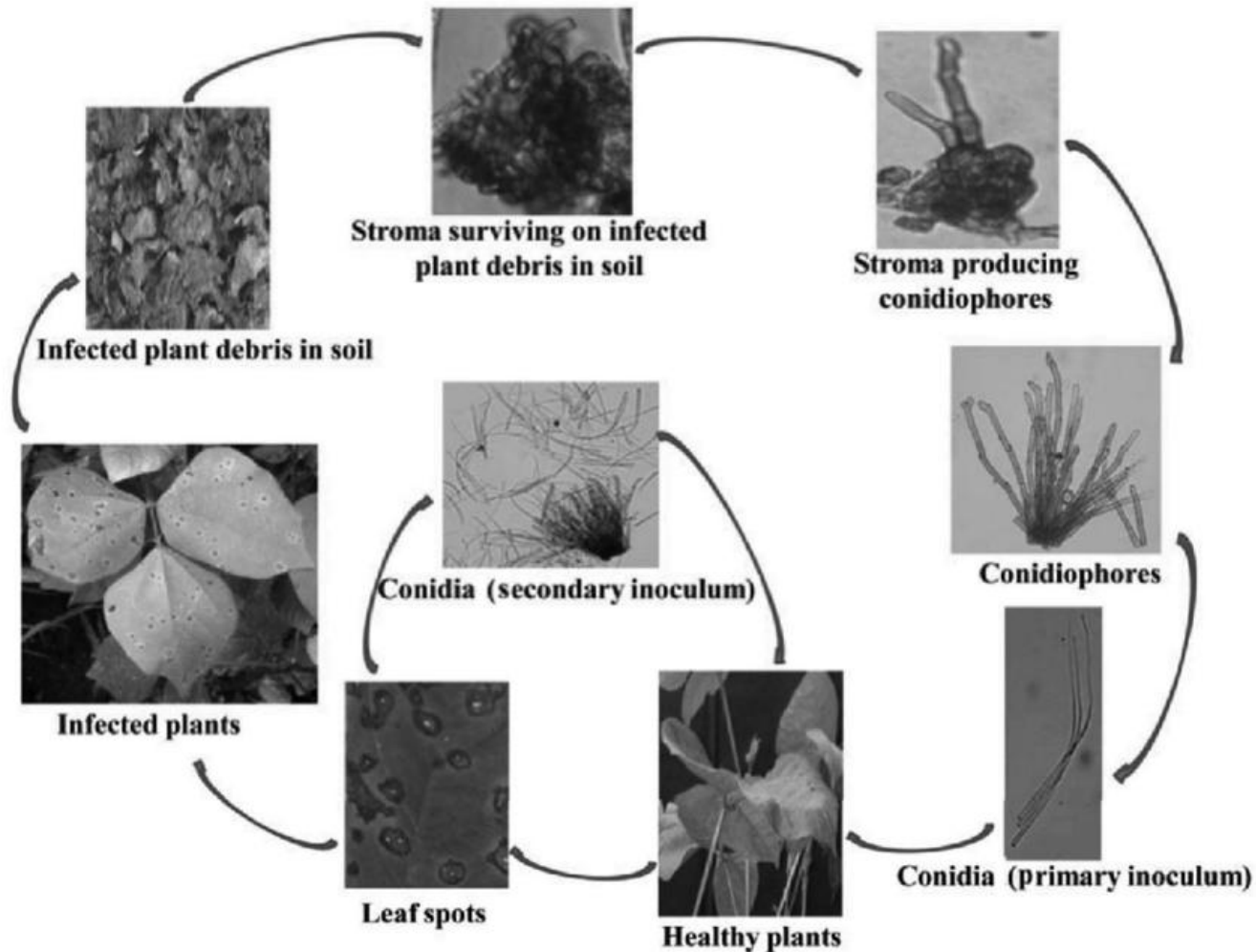
Etiology

- ❖ Hyaline, septate mycelium
- ❖ Stroma



❖ Disease cycle

- ✓ Primary inoculum - soil/ crop debris and seeds
- ✓ Secondary spread - Air borne conidia



❖ Favourable Conditions

✓ T ~ 25 °C; RH > 90%

✓ Dense planting

❖ Management

1. Tolerant variety – UG 135, TPU 4, TPU 5
2. Field sanitation
3. Crop rotation
4. Optimum seed rate
5. Seed treatment – Thiram @ 3g/kg seeds
6. Foliar spray
 - i) Mancozeb @ 0.3%
 - ii) Propiconazole @ 0.1%

Anthracnose

❖ *Colletotrichum lindemuthianum*

❖ Symptoms

1. In all aerial parts of the plants
2. Seedlings - dark brown to black sunken lesions on the hypocotyl area and cause death of the seedlings.
3. Leaf – vein necrosis, lesions – grey center with dark margin
4. Stem and petioles- elongated black lesions
5. Pods- sunken black lesions
6. Seeds – rot and are discoloured





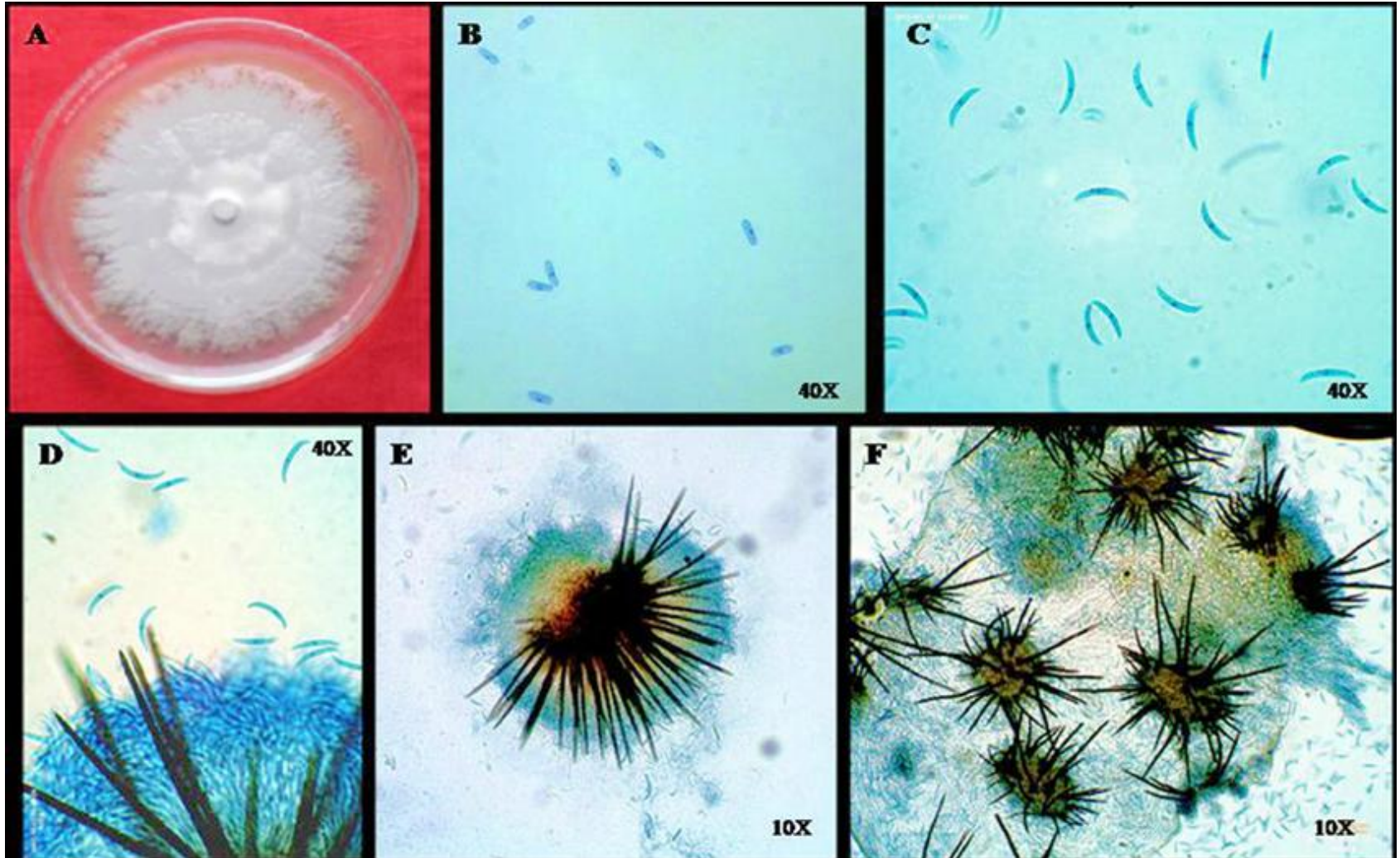


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Etiology

❖ Hyaline septate mycelium

❖ Acervulus



Disease cycle

- ❖ **Primary infection** – Seeds, Soil
- ❖ **Secondary infection** – Conidia

Favourable condition

- ❖ $T \sim 25\text{ }^{\circ}\text{C}$; $\text{RH} > 90\%$
- ❖ Cloudy weather with frequent rains
- ❖ Close planting

Management

1. Crop rotation
2. Field sanitation
3. Optimum seeds rate
4. Seed treatment:
 - i) Trichoderma @ 10g/kg seeds
 - ii) Thiram @ 3g/kg
5. Foliar spray – Carbendazim@ 0.1%
 - Propiconazole @ 0.1%
 - Azoxystrobin @ 0.1%

Yellow Mosaic Disease

❖ *Mungbean yellow mosaic virus*

❖ Symptoms

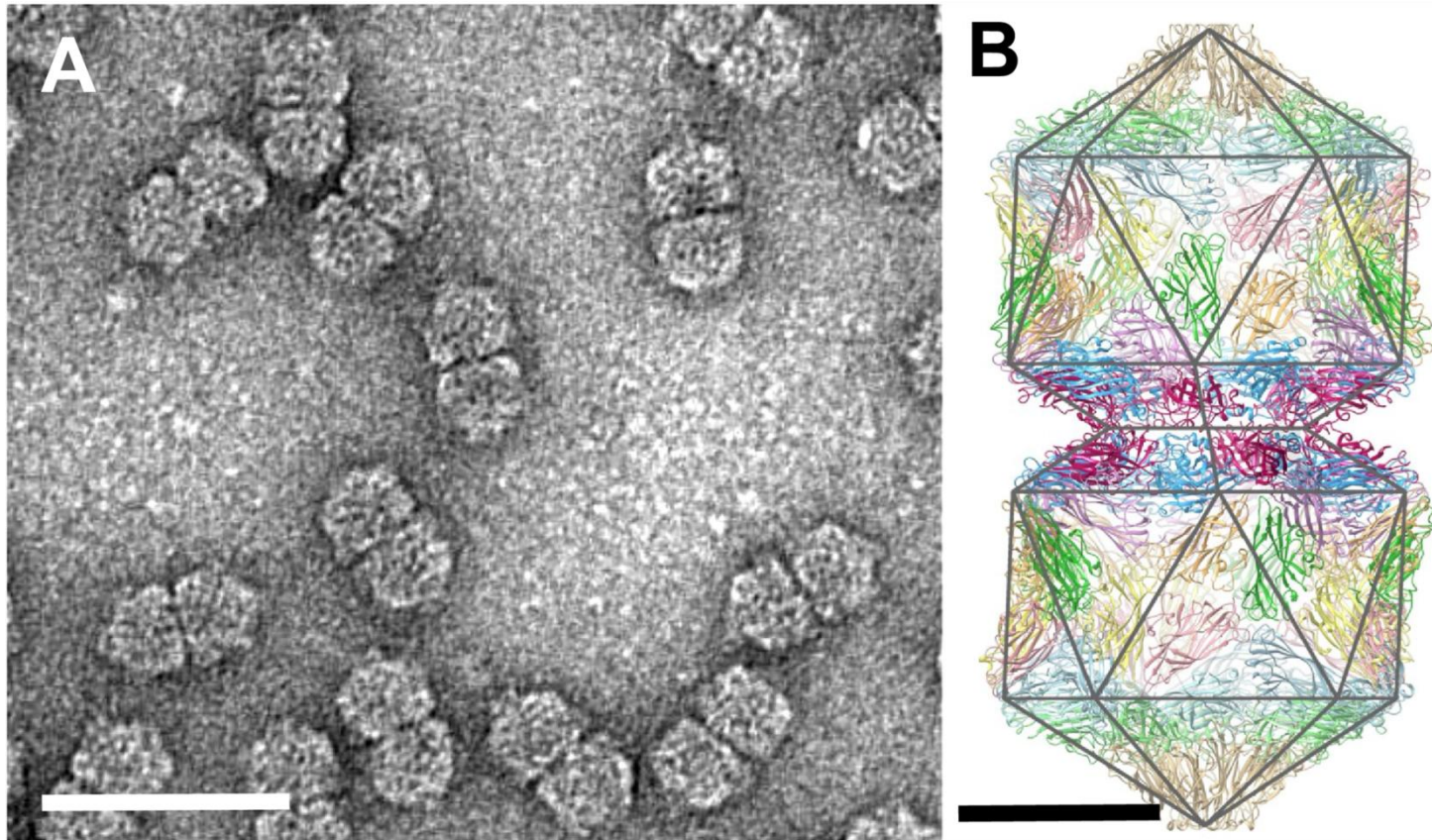
1. Small yellow flecks
2. Lesions enlarge to cause yellow mosaic
3. Stunting and reduced pod formation





Etiology

❖ *Begomovirus*; ssDNA genome; Geminate



Disease Cycle

- ❖ **Primary inoculum** – Collateral hosts and volunteer plants
- ❖ **Transmission** – *Bemisia tabaci* (Whitefly)



Favourable condition

❖ Hot dry weather

Management

1. Resistant varieties – Pant 30, Pant 90 – Black gram
- LGG 407 and ML 267 – Green gram
1. Rogue out the diseased plants upto 40 days after sowing.
2. Optimum seed rate (25kg/ha)
3. Follow intercropping with maize or sorghum
4. Seed treatment – Imidachlorprid- 3 ml/kg seeds
5. Foliar spray – Imidachorprid – 3ml/ 10L

Powdery Mildew

❖ *Erisiphe polygoni*



Rust

❖ *Uromyces phaseoli typica*



Leaf Crinkle

❖ *Leaf crinkle virus*



Dry root rot

❖ *Rhizoctonia bataticola*

