

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Apple scab

Symptoms:

- On leaves apple scab appears as black spots on either the upper or lower leaf surface. Young scab spots appear as light green areas which contrast slightly with the healthy surface.
- Fruit infected early in development becomes severely scabbed and cracks appear in the skin and flesh of the fruit.
- Infection of nearly mature fruit results in small spots with little distortion.
- **C.O.** *Venturia inaequalis*
- **Anamorph:** *Spilocaea pomi*

Symptoms of Apple Sab



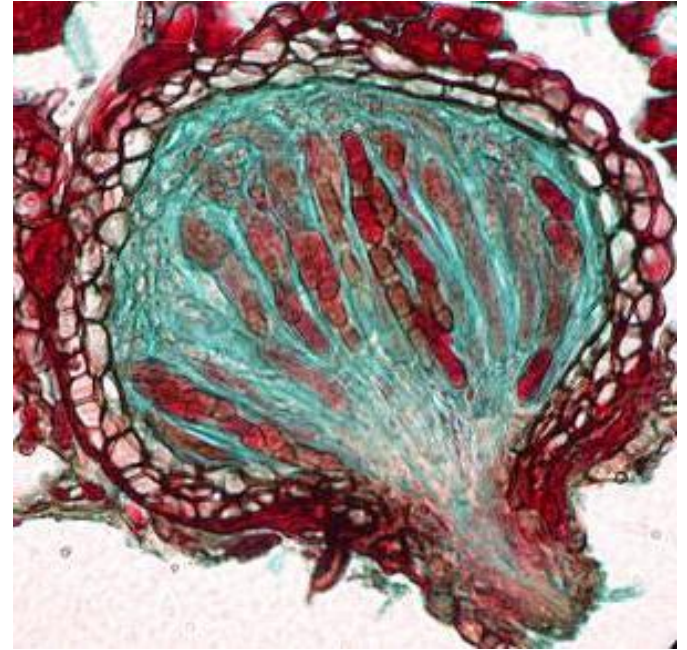
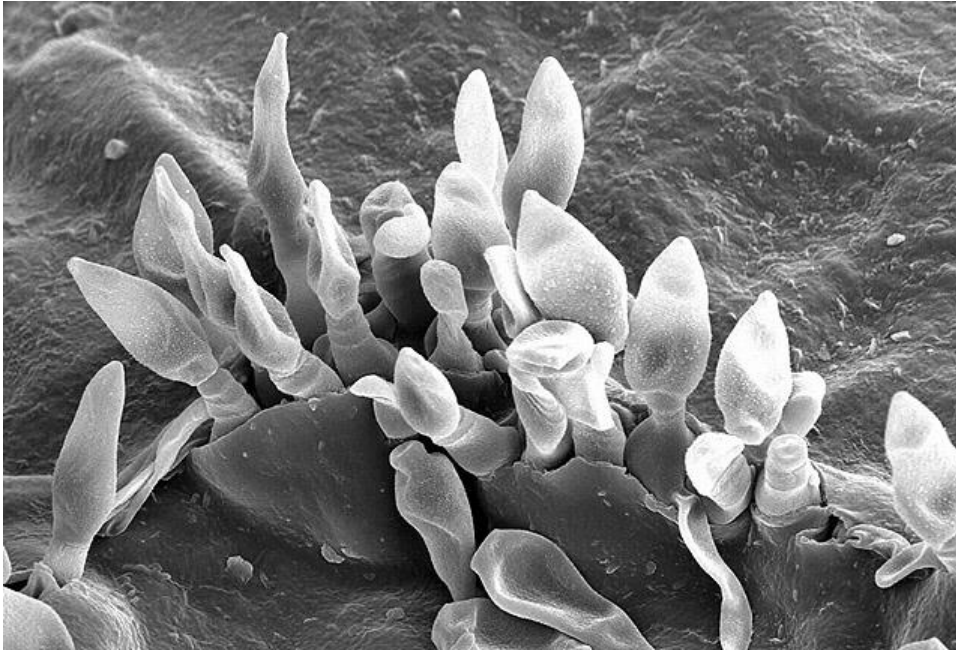
Apple scab on Immature fruit



Apples scab on mature fruit



Apple scab conidia and pseudothecium



Epidemiology

- Rainy cool weather favours disease development.
- **Temp.** 16-23°C
- **Control:**
- Collect and dispose of fallen leaves.
- Spray any one of benzimidazole fungicides.

Diseases of Pear

- Pear (*Pyrus communis* L.).
- A mild sweet fruit that is a delicious source of fiber, potassium, antioxidants, flavonoids, vitamin C, K and copper.
- Oldest cultivation sites are found in France.

Pear Scab

- **Symptoms**

- Yellow or chlorotic spots are formed on leaves.
- Dark olive green spots appear on leaves and fruit.
- Velvety growth on spots on undersides of leaves may be seen.
- Twisting and distortion of leaves occur.
- Severely infected leaves turn yellow and drop from tree.

- *C. O. Venturia pyrina*

Symptoms of Pear Scab on Fruit



Symptoms of Pear Scab on underside of leaves



Disease Cycle

- Fungus overwinters on dead foliage on ground.
- Spores are dispersed by wind.

- **Factors Favouring**
- High moisture encourages fungal growth.

Management

- Sanitation should be adopted which involves pruning of affected or dead portions of the tree and removing diseased foliage or fruit, which are often important sources of inoculum for the next season.
- Spray of Bordeaux mixture should be done if there is a chance of wet period as soon as leaf tips emerge.
- Fungicidal treatment for Apple and Pear scab is the same.

Alternaria fruit rot of Pear

- **Alternaria rot** is characterized by circular, dry, firm, shallow lesions covered with dark, olive green to black surface mycelial growth.
- The infected tissue becomes brown.
- The disease typically develops near insect feeding injuries, when fruit is overripe, in split pits of fruit, around skin breaks, or at the calyx or stem insertion.
- It infects fruit in the orchard through skin breaks or areas weakened by sunburn or bruising.
- This remains a minor pathogen but its frequency can vary between seasons.

Symptoms of Alternaria Rot on Pear



Management

- Spray of Amistar @ 0.5 ml / liter of water.

*Sources

- 1. Recommended books.
 - 2. Latest research articles downloaded from Google.
 - 3. Google images.
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- *Solely for academic purpose and guidance of students.

سورة التوبة

Banana Anthracnose

Symptoms:

- The disease attacks banana plants at all stages of growth.
- Disease attacks the flowers, skin and distal ends of banana heads.
- The symptoms appear as large brown patches or blemishes and sunken spots on fruits that may bear masses of acervuli. The diseased fruit turns black and shows shrivelling.
- Spores produced on dead banana material spread to young fruit in water droplets.
- The pathogen may also produce symptoms on green fruit and enters the crowns after fruits are detached from stalks.
- The fungus remains dormant in the tissue until the onset of ripening.

Crown Rot

- Brown to black color develops where the hand is detached from the bunch.
- A layer of whitish mold becomes evident on the cut surface of the crown.
- The mold penetrates deeply into the crown and necks of fingers causing a dry, black rot.
- Fingers may detach prematurely from severely infected crowns.
- Disease may increase rapidly during banana fruit ripening.

Causal Organism

- *Gloeosporium musae*
- *Colletotrichum musae*
- Fungus *Colletotrichum musae* can cause both crown rot and anthracnose.

Symptoms of Anthracnose





C.O. Colletotrichum musae
Fusarium semitectum

Factors Favouring

- These pathogens exist in banana fields on dead banana leaf or inflorescence tissues. They are dispersed by wind and water and also by some insects, birds, and rats.
- Disease symptoms increase in poorly managed banana fields.
- High rainfall and high relative humidity favour the disease development.
- Poor fruit packinghouse practices including lack of proper washing and drying and contaminated de-handing knives increase the disease symptoms.

Management

- Spraying of Chlorothalonil (0.2%) or Bavistin (0.1 %) at 15 days interval is recommended.
- Minimizing bruising and development of blemishes.
- Proper sanitation, handling and prompt cooling to 14°C are essential to reduce the disease in cold storage.

- Prune diseased parts to prevent inoculum and increase air circulation minimizing competition among shoots for water and nutrients.
- Weeds need to be removed from banana field.
- Ensure good field drainage.

*Sources

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