Diseases of Mango

Stem End Rot of Mango

- **Symptoms**
- On Fruit , pericarp becomes dark near the base of pedicels.
- The affected area enlarges to form circular black patch which extends under humid conditions.
- Pulp becomes brown and softer.
- The rot produces dark streaking of the water-conducting tissues in fruits.
- C.O. *Botryodiplodia theobromae*

Stem End Rot of Mango

Courtesy: Google Images

- **Spread of Stem End Rot**
- Fungus is a natural inhabitant on the branches of the mango tree and grows into the stem of the fruit before harvest.
- Fruit placed on the ground for de-sapping can also be infected from the bark, litter or the soil.

Management

- 1. Clipping of diseased branches along with healthy portion.
- 2. Removal of diseased fruit.
- 3. Spray of Topsin-M @ 02 gm per litre of water.

Mango Malformation

- History dates back to 1891.
- Controversy exists regarding cause and control.
- Existing local and exotic cultivars show susceptibility.
- Yield reduction may reach up to 80-90%.

Disease Manifestation

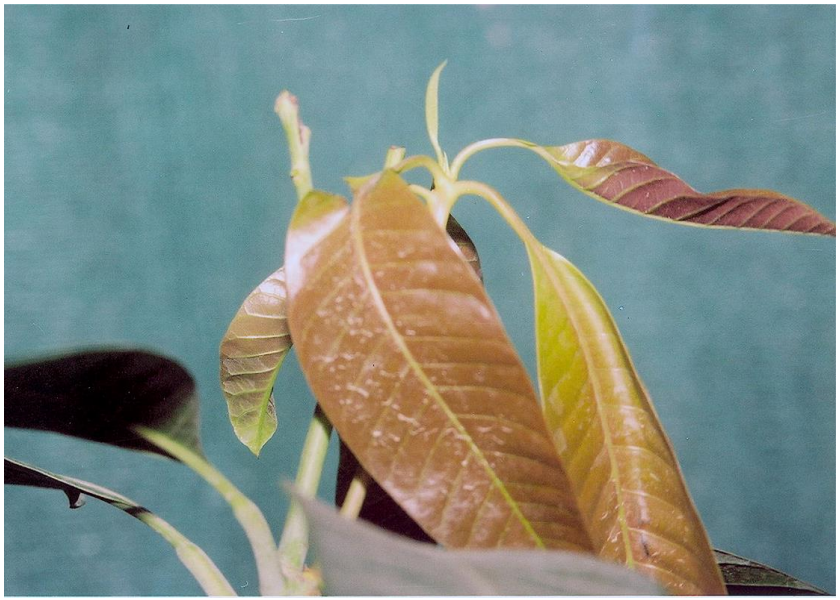
- Highly localized distribution in malformed trees
- Wounds are points of entry for the pathogen
- Massive colonization results into symptoms manifestation
- **C. O.** *Fusarium mangiferae*

Symptoms

- **1. Vegetative Malformation:**
- It is most commonly found on young seedlings.
- It is characterized by disrupting of apical growth resulting into several small flushes.
- Quite short internodes are seen at the apical ends of various branches.
- These shoots bear small leafy structures.

- **2. Floral Malformation:**
- Floral parts are bunched together. Malformed head dries up turning to black mass and persists for long time.
- Secondary branches are transformed into number of small leaves giving a witches broom appearance.

Symptom Expression



Healthy seedling

Vegetative Malformation

Courtesy: Google Images

Healthy panicle

Compact head

VM and FM

Courtesy: Google Images

Management

- **Good orchard management.**
- **Physical alteration.**
  - **Clipping of branches at 1.5 ft. distance behind the panicles.**
- **Chemical spray**

  Spray of benlate 50 WP or Carbendazim @ 2 gm / liter of water.

Powdery Mildew of Mango

- Mango powdery mildew can cause up to 90 percent crop loss due to its effect on fruit set and development.
- Mango powdery mildew was present in India before 1874.

Symptoms

- **Symptoms on Panicles:**
- Infected panicles become coated with the whitish powdery growth of the pathogen.
- Infected flowers and fruits eventually turn brown and dry.
- The dead flowers can easily crumble in one’s hand. Infection often causes flowers and small fruits to abort and fall off.
- The full-bloom stage is the most susceptible to infection.

- **Symptoms on Leaves:**
- New flushes of growth are highly susceptible and may become distorted.
- Grayish, necrotic lesions or large, irregularly shaped spots may form on leaves.
- The youngest leaves may become fully covered with spores and mycelium of the fungus and eventually die.

- C. O. *Oidium mangiferae*

Mango Inflorescence affected by Powdery Mildew

Courtesy: Google Images

Symptoms on Leaves

Courtesy: Google Images

Dissemination of the Pathogen

- Conidia of *O. mangiferae* are wind-disseminated from other mango trees or from within an infected tree's canopy.
- Favourable temperature: 10–31°C
- Relative humidity: 60–90%
- The optimum temperature for infection is 23°C plus high relative humidity.

- Airborne conidia of *O. mangiferae* land upon susceptible host organs.
- The spores produce germ tubes, and the germ tubes infect the tissues.
- The fungal mycelium of the pathogen multiplies within host tissues, eventually killing host cells.
- Development of conidia and conidiophores on the surface of host tissues lead to appearance of powdery mildew symptoms.

Perpetuation

- *O. mangiferae* survives on infected plants and for a period of time as conidia on fallen mango plant debris.
- Populations of *O. mangiferae* can build up rapidly during seasonal flushes of new mango leaves and flowers.
- The conidia can be transported to long distances by winds.

Management

- Pick up fallen mango foliage and destroy it.
- Remove severely infected panicles.
- Spray of Topsin M @ 2 gm/liter of water.

*Sources

- 1. Recommended books.
- 2. Latest research articles downloaded from Google.
- 3. Google images.

- *Solely for academic purpose and guidance of students.