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- The cultivars Tommy Atkins and Kent are less susceptible to disease

Chemical control
- Choice of fungicides depends on intended destination of the fruit

Postharvest control
- Apply the candle method- use hot water at between 50 and 55°C for 3 to 15 min
- Use of chemicals e.g. copper oxychloride
- Similarly,a combination of hot water and fungicide can be used.
- Short wave infrared radiation treatment can also be used.

Integrated disease management
Successful Integrated disease management must take into account the following:
(a) This disease management is moisture driven hence it is important to time the application of fungicide.
(b) Disease severity is as a result of cumulative quiescent infections of post-harvest
(c) Synchronization of flowering with the drier months reduces the probability of fruit infection.
(d) The efficacy of the various treatments is dependent on levels of infection.

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Introduction
Mango (Mangifera indica L.) is a native to India and S.E Asia. It is grown throughout the tropics and subtropics worldwide including Kenya. Post-harvest diseases reduce fruit quality and cause severe losses, as high as 100% especially in very humid conditions. Anthracnose, caused by Colletotrichum gloeosporioides is one such major disease. The pathogen also causes blossom blight, leaf blight, and in severe cases, tree dieback.

Symptoms:
• Irregular shaped black necrotic spots on both sides of the leaf
• Lesions coalesce to form large necrotic areas along the leaf margins. Lesions develop primarily on young tissues, which later form conidia at all growth stages.
• Under favorable conditions, the fungus can invade the twigs and cause dieback.
• Panicle anthracnose or blossom blight affects both the inflorescence stalk and individual flowers, which appear in the stalk as elongated dark gray-black lesions.

Key: A - Mild symptoms and B- Severe symptoms
• Blighted flowers appear dry, with brown to black colour varies from brown to black. This infection causes smaller than pea-sized fruits, which results in fruit abortion.
• Larger fruit that are aborted due to normal self-thinning or due to other physiological causes are usually mummified.
• Mummies are invaded saprophytically by C. gloeosporioides, and the fungus sporulates.

Post-harvest: Fruit anthracnose appears as rounded brown to black lesions. The Lesions are in different sizes, and coalesce to cover the entire fruit surface. And they typically appear in a tear-stained pattern forming from the basal toward the distal end of the fruit. They are usually restricted to the peel, but in severe cases the fungus can invade the pulp, while in advanced stages the fungus may produces masses of conidia that appear on the lesions.

Anthracnose symptoms on mango Panicles

Disease progression
Disease cycle.
• The canopy is the primary source of inoculum
• In the field, C. gloeosporioides produces conidia on lesions on leaves, twigs, panicles, and mummified.
• Conidia can be rain-splashed to other leaves or flowers and cause secondary infections; thus the disease is polycyclic in these organs. Developing fruit can be infected, and some isolates can cause pre-harvest fruit loss

The fruit infections remain dormant after harvest until the onset of ripening. And once the climacteric period of the fruit starts, lesions begin to develop. Fruit-to-fruit infection rarely occurs, which means post-harvest anthracnose is a monocyclic disease.

Pathogen and host event in dormant infections
• As mango fruit ripens, there is a reduction in the concentration of phenolic compounds, which are active against C. gloeosporioides.

Pathogen and host event in quiescent infection by Colletotrichum gloeosporioides
• Temperature and moisture requirements for infection. C. gloeosporioides requires above 95% relative humidity for conidial germination and appressorium formation. The conidia survives for 1 to 2 weeks at humidity as low as 62%, however temperature and moisture requirements have been used to build forecasting systems for mango anthracnose.

Disease management
Postharvest anthracnose can be controlled by either field management and / or after harvest treatments. These control measures should however be effective, cost-effective and safe to both consumers and the environment.

Field control: Management of mango anthracnose in the field involves cultural, chemical as well as cultivar selection.

Cultural control.
• Establish mango trees in areas with definite dry season to allow for fruit development in conditions that are unfavorable for disease development
• Ensure field and general tree sanitation
• Wrap developing fruit in paper bags