Common Fruit Diseases, Symptoms and Management in the South Western Agro-Ecological Zone, Uganda

Anthracnose, powdery mildew and rust are the major fungal diseases affecting mango, avocado, apple, guava and pawpaw fruits in the field and after harvest. These diseases affect all stages of plant growth causing damage to leaves, stems, flowers & fruits. Moist conditions and high humidity are primary factors in the spread and development of fungal diseases. Spores of the pathogens are dispersed mainly by splashing rain, wind, field tools, animals, planting materials, etc. Fungal diseases cause several kinds of rot, blights, die back, necrosis, blotch, spots, mildew, flower and fruit abortion. Besides fungal diseases, bacteria infections are also of great economic importance and cause heavy losses in fruit production in the SWAEZ.









Anthracnose symptoms on mango, pawpaw and avocado

Red Rust disease symptoms on avocado and mango leaves





Powdery mildew symptoms on mango and apple

Integrated Disease Management of Major Fruit Fungal Diseases

The best strategy is to integrate or combine both cultural and chemical technologies.

Cultural Control

- Adequate plant spacing depending on the purpose of the orchard (6m x 6m to 8m x 8m).
- Planting disease free seedlings from reliable and certified sources
- Use resistant fruit varieties
- Timely and proper pruning to ensure good air circulation and adequate sunshine which prevents pathogen innocula build-up.
- Proper sanitation to keep the field clean and free of dead debris or decaying fruits.

Chemical control

- Effective fungicide application using correct chemicals, dosage, timing, equipment, and spray all parts. Minimal fungicide spraying is required at seedling and vegetative plant growth stages.
- Towards flowering stage, begin fungicide applications at first appearance of flower panicles and continue **judicial** spraying until the pre-harvest waiting period.




Powdery mildew symptoms on mango and apple

Fungicides to Use

Contact (protective) fungicides must be used to prevent new infections and spread of disease from infected to healthy parts. Examples include: Mancozeb (Dithane M-45, Agrozeb, Indofil, Kingmill M7 WP 72%), thiram, chlorothalonil and copper based fungicides. Systemic fungicides can be used to cure infected parts and also prevent further infections. Example include: Ridomil, Benomyl,, Thiabendazole, Victory 35 EC and Captan.




Bacterial Black spot mango disease

Citrus Diseases

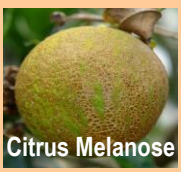
Cercospora leaf spot, scab and melanose are among the major citrus and apple fungal diseases. These diseases all plant parts of all citrus varieties. They are favoured mainly by moist conditions. Greening is a bacterial disease that affects all citrus cultivars causing leaf blotchy mottling, yellowing, stunted growth and die back.



Cercospora leaf and fruit spot




Citrus Scab on leaves & fruits

Citrus Melanose



Greening



Apple Scab



IDM of Citrus diseases

1. Plant disease free seedlings from certified or reliable nurseries.
2. Proper field sanitation (timely and proper pruning, weeding, remove infected plant parts and debris).
3. Control disease spreading vectors (psyllids, Aphids, whiteflies) by applying appropriate insecticides
4. Spray using appropriate fungicides (As indicated above).
5. Uproot and destroy infected trees in case of greening)
6. Disinfect field tools (for all diseases)
7. Proper plant spacing (minimum 4m x 4m).

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