Citrus bacterial Canker. It causes lesions on the leaves , stems, and fruits. It causes leaves and fruits to drop prematurely



Control

•Use of resistant cultivars namely Citron, Mandarin, Calamander and Kumquat .

•Applying preventive sprays of copper-based bactericides

•Destroy infected trees and all surrounding trees within an appropriate radius

Citrus Scabs. (Fungal disease). It attacks fruits, leaves & twigs



Control

. Frequently apply Copper oxychloride to protect new flushes of growth.

. Select a resistant species, hybrid, or cultivar.

. Plant in a sunny, drier location.

. Intercrop citrus with other types of non-citrus plants or trees that are not prone to infection.

. Grow young plants under cover in nurseries and avoid overhead irrigation.

. **Irrigation.** Reducing or eliminating overhead irrigation of susceptible varieties during the active growth period of the fruit inhibits infections and reduces the

. severity of disease.

. **Weed control.** Do not allow tall weeds to grow around citrus plants as they increase the relative humidity in the citrus tree canopy.

. **Pruning.** Periodically thin trees to increase air circulation. Prune shaded branches

Sooty Mould. The symptoms actually indicates there is an insect pest, such as whitefly or black ants. These are sap sucking insects, often found on the undersides of leaves, especially during the cooler weather.

Control

•To treat white fly use an oil based spray.

•Use about a cup of ordinary cooking oil, a half a cup of water and a tiny amount of ordinary washing-up detergent. This is known as white oil. Put it in water, so it's about 40 parts water to one of this mixture. Stir it up and spray it on.



Armillaria Root rot

The first symptoms of Armillaria root rot are poor growth or dieback of shoots, small yellowing leaves, and premature leaf drop.



Control

•clear all remaining stumps & roots ahead of planting time.

•Isolate infected trees by deep trenching, which breaks the rhizomorphs.

•If trees are in the early stages of attack, treat them by exposing the roots to air to a distance of 60 cm around the butt.

•Cut off & burn damaged roots & do not replace the soil for several years.

•Badly affected trees, including the roots, should be removed and burned.

Brown rot .



Control

- Ensure proper irrigation.
- Avoid ground vegetation from growing too tall.
- Pruning to remove low hanging branches.
- Ensure adequate soil drainage.

Post-harvest handling

- Ensure cleanliness / hygiene during movement and in the packing house.
- Disinfecting packaging boxes .
- Clean with disinfectant solutions.
- Store fruits at about 5°C to delay development of brown rot.

Ramathani . I, Musaana. S, Kangire. A , Ddamulira. G , Asiimwe. A, and Otim . A, 2016

Management of Citrus Diseases



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Citrus Diseases (Orange, Lemon, Grape Fruits)

Phaeoramularia Leaf and fruit spot disease . Attacks young fruits, leaves and twigs producing brown-black lesions surrounded by a yellow halo.



Control

- Apply Copper based fungicides
- Use disease free seedling at planting
- When planting susceptible cultivars , it's best to locate them in higher areas where air drainage and ventilation is good.
- Use wider spacing for susceptible cultivars as this ensures rapid drying of the canopy.
- Avoid a lot of excessive vegetative growth .
- Avoid over watering & apply too much fertilizers .

Citrus gummosis



The diseases is easily identified in the early stages of infections where gum oozes from the infected parts hence the name gummosis. Leaves start yellowing and the twigs die-back and the tree eventually dries up and die if untreated.

Control

- Apply fertilizer and irrigate adequately on the affected trees .
- Use tolerant rootstocks namely Cleopatra mandarin.
- Ensure a weed free environment .
- Avoid planting on heavy or waterlogged soils.
- Plant seedling with the bud union at least 6 cm above the ground level.

Citrus Blast/ Black Pit lesions. Usually appears as a black lesion on the fruit/ leaf and progress inside the fruit.



Control

- Planting wind breaks
- Prune out dead twigs and avoid excessive growth
- Avoid excessive fertilizer application to prevent fall growth
- Apply copper based fungicides before the first rains.

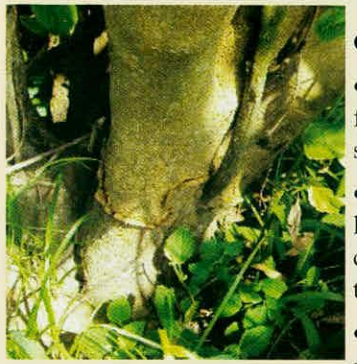
Citrus greening disease. This disease causes sectorial yellowing of leaves. Fruits are small and lopsided. Tree may blossom out of season. It's transmitted by citrus pysllid.

Control .

- Control the psyllids with insecticides.
- Plant seedlings from certified nurseries.
- Rogue infected trees and disinfect budding tools from one seedling to the next.



Phytophthora root rot. The most diagnostic symptoms are found at or below the soil level. Longitudinal cracking of bark, accompanied by profuse gumming, usually is positive evidence of infection.



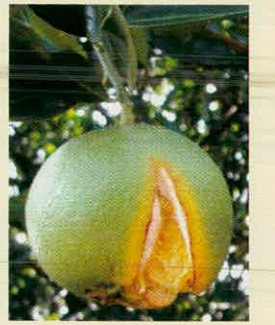
Control

- keep the bud union at least four to six inches above the soil line at planting.
- Water should not be allowed to stand around the crown of citrus during irrigation.
- Use moderately resistant rootstocks include *Citrus macrophylla, Cleopatra mandarin,* and *Troyer citrange.*
- Avoid over-irrigation. It is important to dig a planting hole as deep as necessary to obtain good drainage.
- Use systemic fungicides specific for control of *Phytophthora*. These chemicals are applied to the soil and the crown and trunk areas of affected trees.

Citrus Splitting .is an abiotic disorder, that is, it is a problem that cannot be attributed to any living organism but one that stem from environment or cultural conditions . It's caused by extreme fluctuation in temperature, humidity, soil moisture & possibly fertilizer levels.

Control

- Ensure adequate soil moisture and Fertilizer level throughout the season.
- Damaged fruits should be removed and they are susceptible to Alternaria rot and do harbour fungi, bacteria , Insects or other unwanted pests



Melanose. (Fungal disease)

The symptoms vary from small spots or scab-like lesions to patterns of damage referred to as tear-drop, mud cake, and star melanose



Control

- Prune periodically away the dead branches.
- Apply copper based fungicide to young fruits and leaves. Where the disease tends to be severe, apply fungicide frequently.
- Avoid planting very susceptible citrus varieties or species namely sweet orange, grapefruit, pummelo) in high-rainfall areas.
- Plant citrus in sunny, low-rainfall regions.
- Interplant citrus with non-susceptible hosts (avoid mono -crops).
- Pick up and destroy plant materials that have fallen from the citrus canopy.