Armillaria root rot. (A fungal disease).



The most reliable sign of is a white fan-shaped growth of the fungus mycelium under the bark of diseased roots. Purplish brown cordlike rhizomorphs that resemble feeder roots sometimes grow on the surface of diseased roots.



The Armillaria fungus may produce a mushroom stage around the base of the infected tree during the rainy season .

Control

- Severely affected and dying plants, there is no cure for affected trees
- Destroy and remove all affected stump and root system
- Soil fumigation might be necessary to control the spread
- Slightly affected plants. Remove soil around the rotted part of the trunk as allow to air dry. The infected areas should be cut out down to the healthy tissue and diseased tissues destroyed.
- Wash cutting tools in soap and water and sterilize them in rubbing alcohol afterward.
- The plant should be given proper fertilization and watering to promote good growth; however, avoid watering the exposed trunk and larger roots to keep this area of the plant as dry as possible. Whether or not the trunk and larger roots have been exposed for drying, always avoid watering trees and large shrubs where the trunk enters the ground.

Cercospora leaf spot

Small, brown flecks develop with a reddish border, expanding to circular spots about 4 mm wide with an



ashy-grey centre. This tissue becomes thin and brittle, and often drops out, leaving a ragged hole.

Control

- Apply the recommended fungicides, particularly during warm, wet weather
- Plant only high-quality seed. Do not plant seed potentially infected with *Cercospora.*
- Destroy infected crops promptly after the final harvest and before replanting .

Diothiorella Canker is a white powder that exudes from the bark and a cracking and shedding of the outer bark.

Affected trees sometimes gradually die back and look unthrifty; in unusually severe cases, the tree may be killed.



Control.

- Mexican varieties are much more resistant to this disease.
- The disease is favoured by moist conditions.
- Do not let dead leaves and debris accumulate around the trunks or lower branches,.
- Keeping trees thrifty and pest free .

Diothiorella fruit rot

Small purplish brown spots may then appear on any part of the fruit, but more often at the stem end.

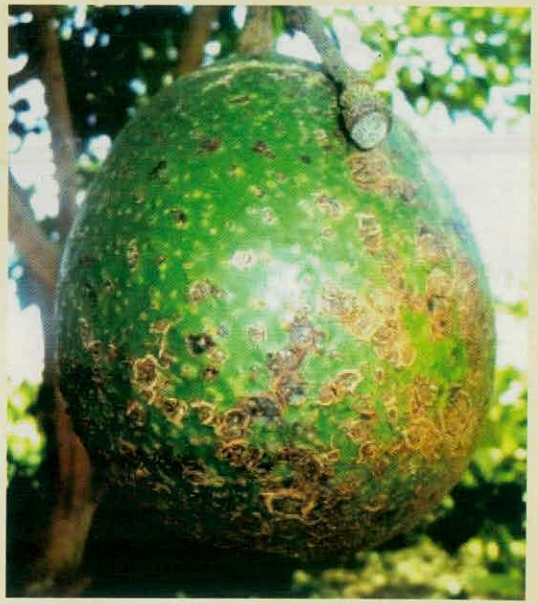


Control .

- Do not let dead material accumulate in the groves.
- Avoid saline conditions that cause necrotic spots to develop on leaves
- Follow the control measures for Anthracnose.

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

Management of Avocado Diseases



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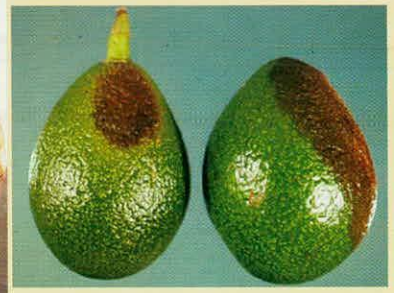
Avocado Diseases

Anthracnose (Fungal disease) is is the most widespread and serious disease affecting the leaves, flowers and fruit of avocado in the wet and humid tropics.





Control

- Ensure good ventilation and rapid drying of the foliage.
- At monthly intervals spray with a registered fungicide & 14 day intervals from fruit set to fruit harvest. The most preferred fungicides are : copper oxychloride, cupric hydroxide and cuprous oxide (Nordox 75WG)
- Keep harvested fruit out of direct sunlight to prevent the flesh overheating.
- Plant avocado seedlings at least 25 feet apart to allow good aeration of the canopies of mature trees.
- Pick up fallen debris and remove it from the field.
- Prune avocado plants to improve the movement of air within the tree canopy and reduce excessive food sink .
- Remove dead twigs and leaves within the canopy.
- Control fruit injuring by insect pests such as fruit flies.
- Minimise wounds to fruit skins during & after harvest.
- Before packing, treat fruit with a registered curative fungicide
- During harvest, allow some of the plant stem to remain attached to harvested fruits by cutting the fruits from trees with stems attached, rather than by pulling fruits from the branch. This practice reduces stem-end rots of avocado fruits.
- Use clean, sanitized harvesting tools and fruit-carrying baskets.
- Wash fruits and dry them promptly.
- Cool avocado fruits after harvest to inhibit anthracnose lesion development. Some avocado cultivars may be refrigerated after harvest without damage to fruits. High storage temperatures enhance disease severity
- Sell avocados before they turn soft and develop anthracnose symptoms.
- Consume them promptly (within 1 day) after ripening or else refrigerate or cool them after ripening until they are ready to be eaten.

Phytophthora Root Rot (Fungal Disease)

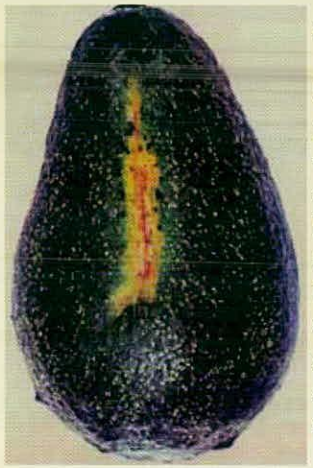
A percentage of avocado trees die each year from root rot. The number is largely dependent on the amount and intensity of rainfall. Orchards may be killed out after one season of heavy rainfall. Trees commonly die as they begin to bear fruit, well before any profit is made.



Control

- Pick a site with excellent drainage . The soil should be at least 2m deep and water should be able to flow through it during heavy down pour.
- Grow cover crops such as cowpea, soybean, sorghum, maize or banana. Properly fertilised these cover crops increases humic materials
- Regular application of fungicides. Applications should begin with the new growth flush and need to be repeated through the wet period.

Sun blotch :Caused: Avocado sun blotch viroid.
Spread by: Infected seed, grafting wood, pruning & cutting implements, natural root grafting between trees & pollinating insects.
Symptoms: Streaking and spotting of the bark & fruit, often depressed, usually yellow but ranging from white to red. Occasionally leaves may have white or yellow mottles, similar to variegation. Fruit may be small and misshapen, their number varying from none to many per

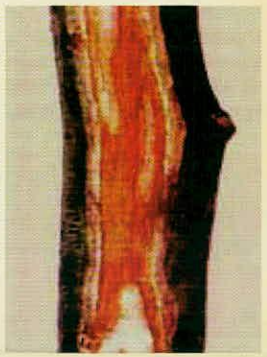


infected tree.

Control: This depends on the use of seed and bud wood from propagation sources certified free of sun blotch. There is no absolute test for freedom from sun blotch infection but a biochemical test is used to eliminate trees that may be symptomless carriers of the disease.

Verticillium Wilt (Fungal disease)

Symptoms: The leaves on one branch (rarely the whole tree) suddenly wilt and hang for many weeks. When the bark is peeled away the underlying tissue (cambium) is brown. Fresh growth from below the affected branch is usually healthy and the tree may eventually recover to full productivity.
Spread by: Spores of the fungus that persist in the soil and on alternative host plants. The spores are also carried on grafting wood taken from affected branches, but such wood rarely survives in the nursery.



Favoured by: Previous cropping or inter-cropping with susceptible host plants. Old tomato and potato land is the most common source of the problem.
Control

- Avoid land where highly susceptible crops have been grown.
- Diseased trees seldom need any treatment except the removal of dead limbs.
- When selecting grafting wood, avoid trees that have displayed symptoms of this disease.