

# Patch Canker or Stem Disease of Durian

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Severely affected tree showing defoliation

Patch canker or stem canker is a fungal disease, caused by *Phytophthora palmivora* and is common in most durian growing areas. Although the disease is present in Brunei Darussalam, there is little information available on the extent of infection. However, the disease appears to be more serious and widespread than has previously been thought. Therefore, it is important to monitor this disease and take appropriate measures to control it in order to prevent loss to the crop.

## Symptoms

The disease appears first as a brown

wet looking infection on the bark. This type of infection can be found in the branch forks and on other areas of the main trunk and lower branches. When the affected bark is removed the underlying wood appears dull and reddish brown.

As a result of infection of the trunk, the twigs at the top wilt and dry up leading to gradual die-back. When the disease becomes severe, gradual defoliation occurs and by this time the root system may also become infected and decayed. This will eventually lead to death of trees.

In addition to patch canker in mature trees, the fungus can cause rot in immature and mature fruits and leaf blight.

The fungus can also cause root rot in young seedlings leading to gradual die-back.

## Conditions Favouring Disease

*Phytophthora palmivora* is a soil fungus, capable of moving through soil during rain and irrigation to infect neighbouring trees. Additionally, the fungus from the soil can be splashed onto lower branches by impacting rain drops. Once a tree or branch is infected the fungus can be dispersed by wind, insects or rain.

The disease is more severe in low lying areas. Moist and humid conditions are very conducive to the spread of the

disease. Prolonged dry periods or periods of water stress are favourable to disease development. Infestation by the pin hole beetle can also make the trees more prone to the disease. Trees that do not receive adequate fertilizer are more susceptible to the disease.

## Control

Once the fungus is present in the durian orchard it is difficult to eradicate. It is therefore very important to keep the trees disease free.

- Keep trees healthy by monitoring their nutrient requirements.
- Monitor water requirements particularly during dry periods.
- Improve drainage particularly in low lying areas.
- Use wider tree spacing and prune lower branches.
- Wound dress or paint cut surfaces of branches with a fungicidal slurry.
- If a branch or a tree is badly infected, cut, remove and burn them.
- Use disease free rootstocks raised from resistant varieties.
- Chemicals such as Ridomil Aliette Foli-R-Fos or Copper fungicides can be applied as a paint, spray, drench or trunk injection.