

# Landscape Palm Diseases

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## Fusarium Wilt of Canary Island Date Palm

- As the name implies, Fusarium wilt of Canary Island date palm is primarily observed on *Phoenix canariensis* (Canary Island date palm). It has been documented on *Phoenix reclinata*.
- The disease is caused by the fungus *Fusarium oxysporum* f. sp. *canariensis*.
- The leaf symptoms include a one-sided death, wherein the leaflets on only one side of the rachis are desiccated or dead. This is often accompanied by a reddish-brown or dark-brown streak on the petiole and rachis on the same side as the desiccated or dead leaflets. Eventually, the entire leaf dies.
- The disease symptoms normally appear first on the oldest (lowest) living leaves, and then progressively move upward in the canopy until the palm is killed.
- The only other disease that these symptoms could be confused with is petiole/rachis blight.
- Transmission of the fungus from palm to palm is primarily by contaminated pruning tools.
- There is no cure for this lethal disease. Fungicides have not been effective against Fusarium wilt.
- Since there is no cure, disease management is aimed at disease prevention. A new hand saw or a disinfected pruning tool should be used for pruning leaves from each individual Canary Island date palm.
- A laboratory diagnosis using molecular techniques is required to confirm Fusarium wilt.

## Fusarium Wilt of Queen and Mexican Fan Palms

- As the name implies, Fusarium wilt of queen palm and Mexican fan palm is primarily observed on *Syagrus romanzoffiana* (queen palm) and *Washingtonia robusta* (Mexican fan palm or Washington palm). However, it has also been documented on *Phoenix canariensis* (Canary Island date palm) and *x Butyagrus nabonnandii* (mule palm), and isolated from *Phoenix reclinata* and *Bismarckia nobilis*.
- The disease is caused by the fungus *Fusarium oxysporum* f. sp. *palmarum*.
- This disease is similar to Fusarium wilt of Canary Island date palm, but the pathogen subspecies and host range are different.
- The leaf symptoms include a one-sided chlorosis (yellowing) or necrosis (brown due to death) of the leaf blades, with a distinct reddish brown or dark brown stripe on the petiole and rachis. The internal petiole and rachis tissue is discolored. Eventually, the entire leaf dies.
- The disease symptoms normally appear first on the oldest (lowest) living leaves, and then progressively move upward in the canopy until the palm is killed. Palms often die two to three

months after initial symptoms are observed. Due to the quick decline, the necrotic leaves do not droop or break and bend down around the trunk, but remain relatively rigid (as if freeze-dried).

- The only other disease that the leaf symptoms could be confused with is petiole (rachis) blight.
- The fungus is spread by wind-blown spores, but local transmission of the fungus from palm to palm is possibly caused by contaminated pruning tools.
- There currently is no cure for this lethal disease. Diseased palms should be removed immediately to limit spread of the fungal spores.
- Laboratory confirmation of this *Fusarium* wilt pathogen requires molecular techniques.

### **Thielaviopsis Trunk Rot**

- Thielaviopsis trunk rot is caused by the fungus *Thielaviopsis paradoxa*.
- Due to this fungus, the palm trunk either collapses on itself or the canopy suddenly falls off the trunk, both without warning. The palm canopy often appears healthy prior to collapse.
- Except for “stem bleeding,” which is common in *Cocos nucifera* (coconut), there may be no symptoms prior to collapse of the palm.
- Only fresh trunk wounds become infected by the fungus, so disease management includes limiting man-made wounds to the palm trunk, especially the upper third of the trunk.
- The palm should be removed immediately, and the diseased trunk portion destroyed but not recycled.

### **Petiole (Rachis) Blight**

- Petiole (rachis) blight is caused by numerous fungal pathogens, but the symptoms these pathogens cause are similar for all of them. And, the symptoms look similar to those caused by the *Fusarium* wilt pathogens.
- Palm host range is unknown for most of the pathogens.
- The disease often results in discolored (usually brown or reddish-brown) elongated lesions or streaks along the petiole of the oldest (lowest) leaves.
- The pathogens infect *only* the petiole, not the leaf tissue. However, destruction of vascular tissue (xylem and phloem) deep into the petiole results in a one-sided or uneven death in the leaf blade.
- Fungal structures can sometimes be observed on the infected petiole or rachis surface.
- Very little is known about these diseases. Removal and destruction of symptomatic tissue would be recommended. New or disinfected tools should be used for pruning.
- The symptoms of this disease look similar to those of the *Fusarium* wilt diseases. Diagnosis requires a laboratory confirmation.