

Diseases of Ornamental Palms In the Landscape

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Palms are popular landscape plants in the western and southern regions of the US. Most palms are native to the tropics but are commonly planted wherever temperature does not limit their growth. Palms are a very diverse group of plants representing more than 1,000 species and varieties in the family Arecaceae. Appearance, growth characteristics, cultural preferences, hardiness and susceptibility to pests vary greatly within this group.

Fusarium Wilt

Fusarium wilt is the most serious and lethal of landscape palm diseases. Fortunately, the host range is limited to just a few species. Infection by the fungus *Fusarium oxysporum* f. sp. *canariensis* causes a vascular wilt that was first identified on *Phoenix canariensis* (Canary Island date palm). The disease occurs wherever this palm is grown including California, Texas, and Florida. Recent surveys conducted in Florida have detected *Fusarium* wilt on other species in the genus *Phoenix* sp., queen palm (*Syagrus romanzoffiana*), and Mexican fan palm (*Washingtonia robusta*).

Characteristic symptoms of this disease include one-sided necrosis of the pinnae, a brown stripe along the palm rachis, and frond tip dieback (Figure 1). Symptom development can vary, but disease symptoms usually develop in the lower canopy and progress upward. Discoloration of the vascular tissue can be observed in cross sections of the petiole and trunk. Death of infected palms may occur within several months of symptom development.

Palms can be infected for many years before symptoms develop. *Fusarium* is soil borne and is disseminated by moving infested soil, often in nursery stock. The pathogen remains viable in infested soils indefinitely.

Figure 1: Characteristic symptoms of Fusarium wilt



It is also easily spread on infested pruning tools and is commonly spread during pruning and other maintenance activities.

Planting disease free nursery stock is essential to preventing introduction and spread of *Fusarium*. Pruning of date palms should be avoided except to remove dead fronds. Pruning tools should be sterilized between palms to avoid disease spread.

Pink Rot

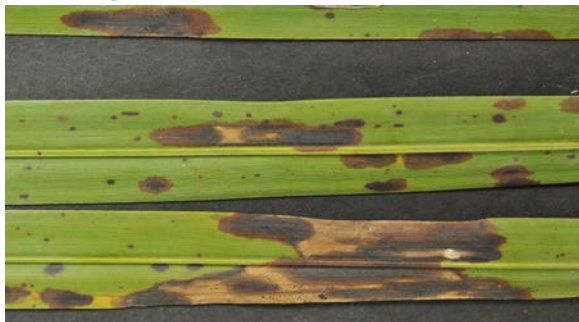
Pink rot (Gliocladium Blight) is a disease caused by the fungus *Nalanthamala vermoeseni* (formerly *Gliocladium vermoeseni*). This disease is widely distributed but is common on Queen Palm (*Syagrus romanzoffiana*) and Fan Palm (*Washingtonia* sp.) in the landscape. The disease causes bud, stem, and trunk rot on infected palms. Pink rot is easily confirmed by the presence of pinkish orange masses of spores produced by the fungus on stems and buds.

Severe pruning can initiate infection and should be avoided. Pruning wounds also serve as excellent infection courts for *N. vermoeseni*. If pruning is necessary, it should be performed during dry periods when the fungus is less active. Pink rot can also be managed with regular fungicide applications to the bud and newly developing fronds.

Pestalotia Leaf Blight

Pestalotiopsis spp. is a fungus associated with leaf blight disease on a wide range of palms. The disease is most common in moist, subtropical regions. Disease symptoms usually begin as small gray to black lesions on the leaf tissue (Figure 2). Lesions can expand to cause blighting of the tissue. Dead tissue becomes thin and turns light gray with a black margin.

Figure 2: Leaf blight on date palm caused by *Pestalotiopsis*



Fungicide treatments will suppress new infections when disease pressure is severe. Severely diseased fronds should be pruned out during dry periods when the pathogen is less active.

Phytoplasma Diseases

Phytoplasmas are bacteria that colonize the phloem of plants and cause disease on a wide range of plants worldwide. They are spread by insect vectors such as planthoppers, leafhoppers, and psyllids. Phytoplasmas are responsible for two diseases on palm: Lethal Yellowing (LY) and Lethal Bronzing (LB). Neither disease is new, but the latter has been implicated as an emerging disease of palm in Texas and Florida.

Phytoplasmas have the potential to affect a wide range of palm species. LY has been reported on 35 different palm species in Florida. LB was recently identified in Florida where it is causing decline and death of indigenous cabbage palm (*Sabal palmetto*) in several areas of the state. LB has the potential of spreading to surrounding states, especially on infested nursery stock.

Symptoms caused by LY and LB can vary depending on the palm species affected. Diagnosing phytoplasma diseases from symptoms alone can be difficult. Generally, symptoms include a yellowing of the foliage that begins in the lower canopy. Yellowing can progress upward until all foliage is yellow. Yellowed leaves eventually turn brown and droop as the infection progresses. Inflorescence (flower) necrosis on mature palms occurs during the early stage of disease.

Figure 3: Symptoms of Lethal Bronzing



Planting palm species that are resistant to phytoplasma diseases is recommended in areas where these diseases occur. On susceptible species, antibiotics can be injected into stems to prevent and suppress disease. Treatments must be made at frequent intervals throughout the year to provide protection and therapy. Disease control through vector management has had very little success.

Ganoderma Basal Rot

Ganoderma basal rot is a fungal disease caused by *Ganoderma* spp. The disease is most common in the southeastern US on several species of palm including cabbage palm, date palm, fan palm, and coconut palm. The disease causes decay of the lower stem tissues and is eventually lethal. Disease symptoms include severe wilting of the foliage, reduced growth, and necrosis of foliage. Extensive trunk decay is usually present by the time canopy symptoms appear.

Figure 4: Basidiocarp of *Ganoderma* on palm trunk



The basidiocarp (fruiting structure) that is produced on the surface of the stem is a key diagnostic feature (Figure 4). Decay may also predispose stems to failure (breakage). No treatments exist for this disease. Remove severely diseased plants to prevent potential failures. Do not replant susceptible palm species on sites where diseased trees were removed.



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