

# Palm Diseases in California

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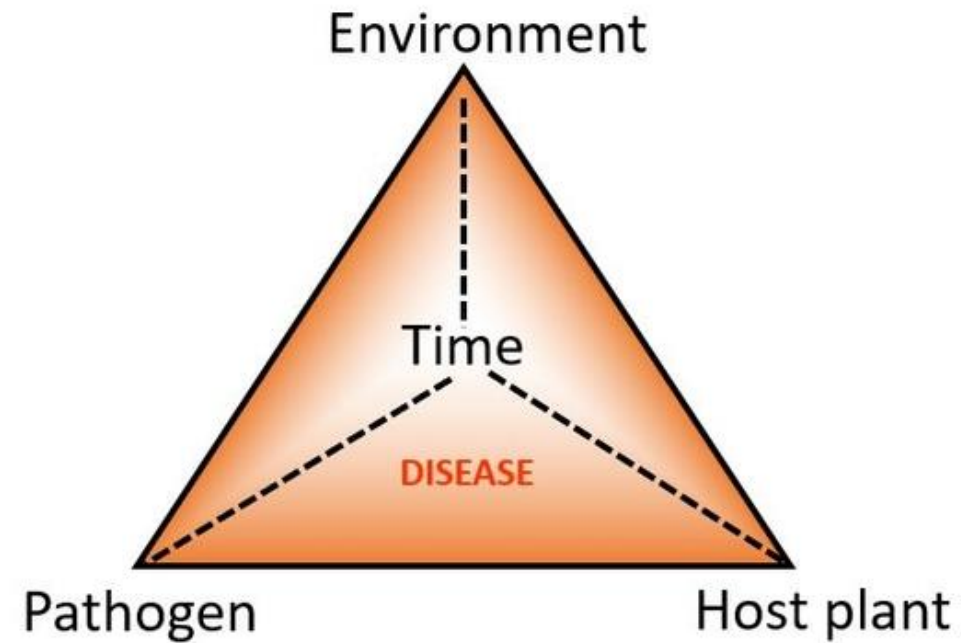
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Plant Pathology Advisor

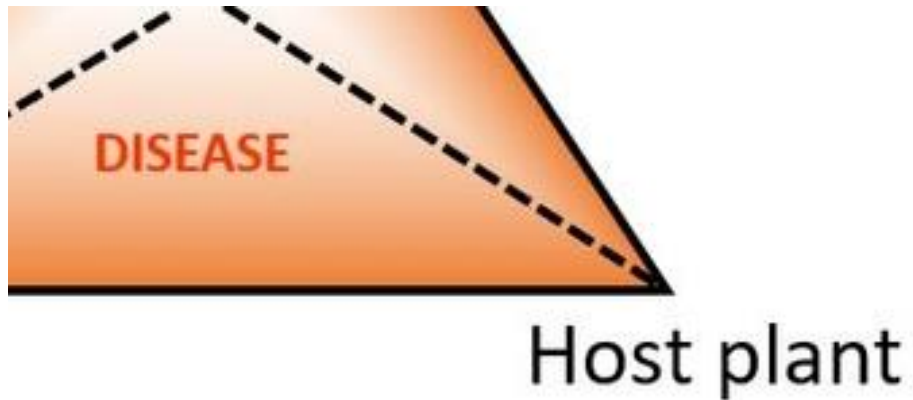
Imperial, Riverside and San Diego

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Agriculture and Natural Resources

# Disease Triangle



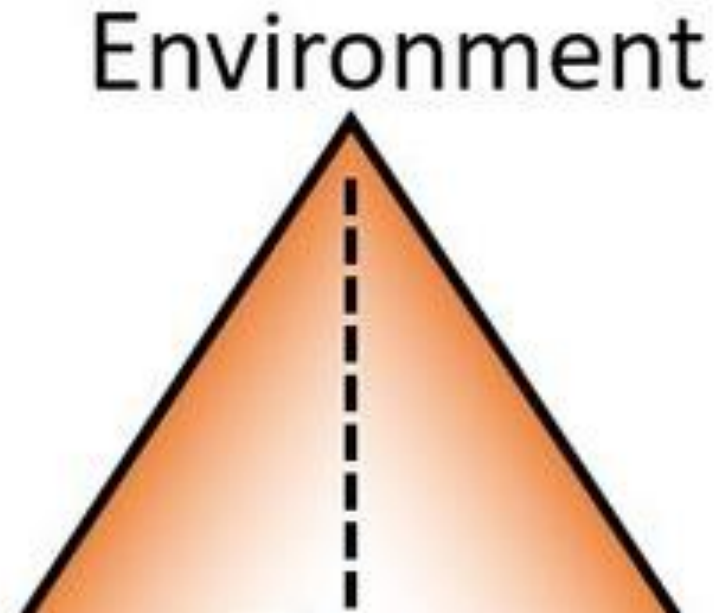
# Disease Triangle



- Choose the **appropriate** palm for the location.
- Plant and transplant palms **properly**.
- Minimize pruning and other practices that can **injure** your palm.

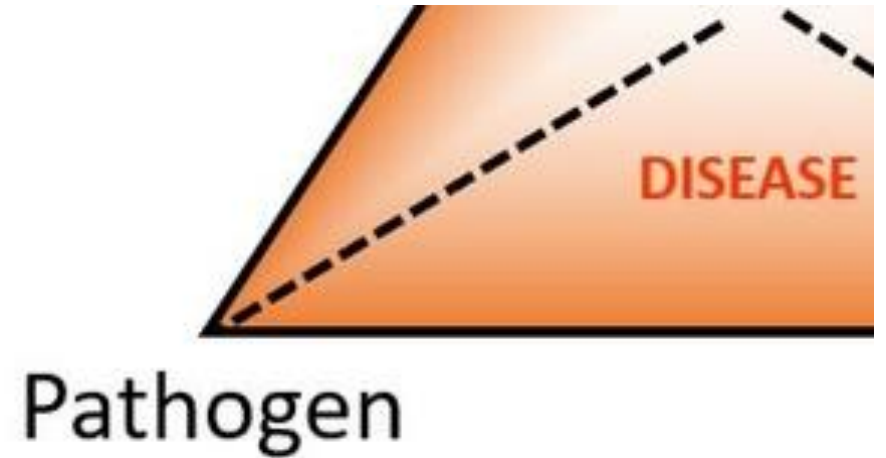
# Disease Triangle

- Use proper irrigation techniques.
- Apply palm-specific fertilizer according to the instructions.
- Maintain a 2-foot clearance around the trunk, free of turfgrass, groundcovers, shrubs, and weeds.
- Add mulch as needed.



# Disease Triangle

- Thoroughly **disinfect blades** before using them on **each** palm.
- **Do not recycle or chip infected material for mulch,** as it may contain and spread pathogens.

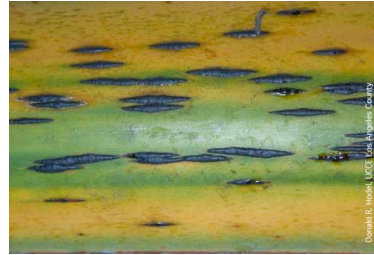


# Major Diseases in California Palms

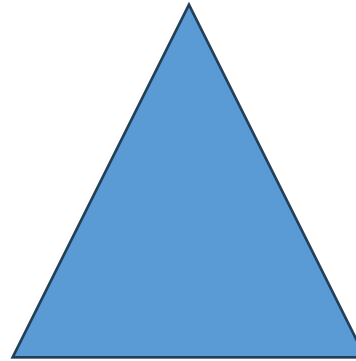
- Diamond Scale
- Fusarium wilt
- Pink Rot

# Diamond Scale – Disease Triangle

*Phaeochoropsis neowashingtoniae*



California Fan Palm (*Washingtonia filifera*) and hybrids with the Mexican Fan Palm (*Washingtonia x filibusta*)



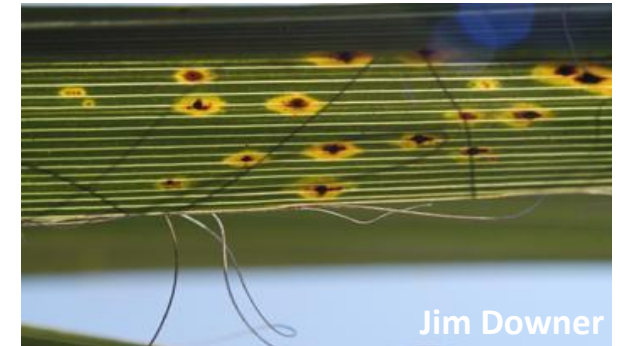
Weather conditions heavily influenced by the ocean





# Diamond Scale – Symptoms and signs

- The palm usually has a significantly reduced leaf canopy.
- Older or lower leaves turn yellow and die prematurely.
- Small, shiny black, diamond-shaped fruiting bodies on leaf blades and petioles.
- While not particularly lethal on its own, it reduces the palm's vigor and stresses it, making the plant more susceptible to other diseases.



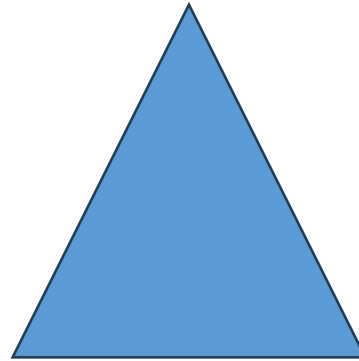


# Diamond Scale – Management Strategies

*Phaeochoropsis neowashingtoniae*

Fungal spores travel by wind and water

Weather conditions  
heavily influenced by  
the ocean

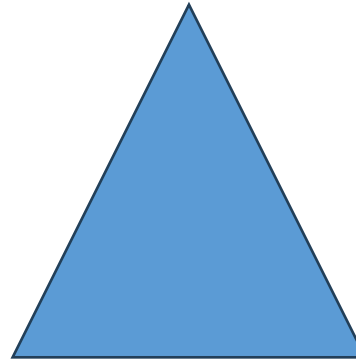
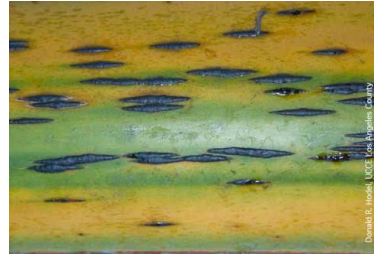


California Fan Palm (*Washingtonia filifera*) and hybrids with the Mexican Fan Palm (*Washingtonia x filibusta*)



# Diamond Scale – Management Strategies

## *Phaeochoropsis neowashingtoniae*



**Weather conditions  
heavily influenced by  
the ocean.**

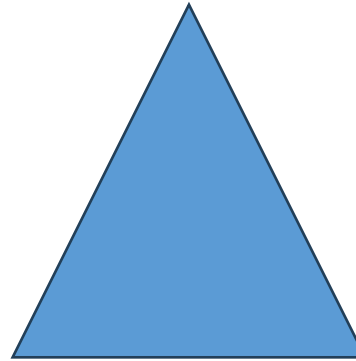
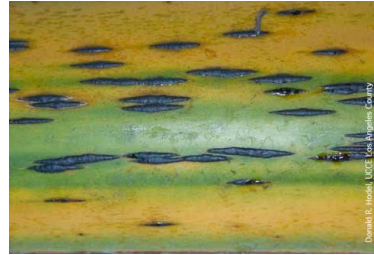


### **Diamond scale-resistant species of similar habitat:**

- Mexican blue palm
- San Jose Hesper palm
- Guadalupe palm
- Australian fountain palm
- Chinese fountain or fan palm
- Chinese windmill palm
- Pure Mexican fan palm

# Diamond Scale – Management Strategies

*Phaeochoropsis neowashingtoniae*



Weather conditions  
heavily influenced by  
the ocean



California Fan Palm (*Washingtonia filifera*) and hybrids with the Mexican Fan Palm (*Washingtonia x filibusta*)



# Fusarium wilt – Disease Triangle

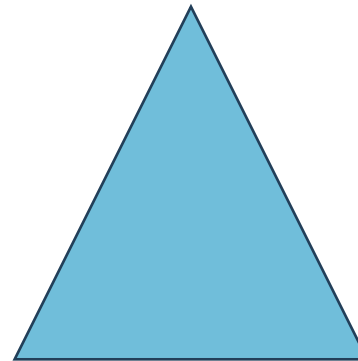
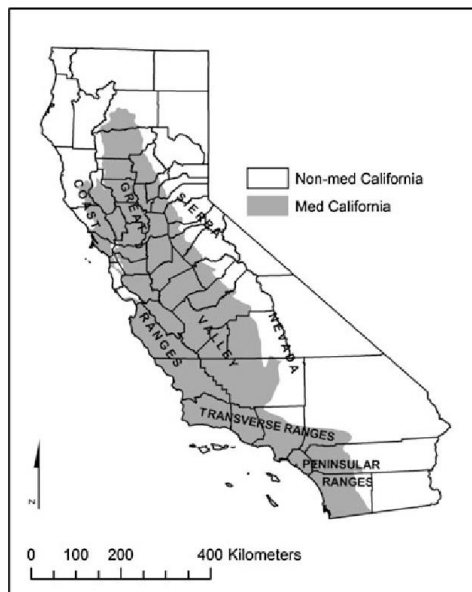
*Fusarium oxysporum* f. sp. *canariensis*



Canary Island Date Palm (*Phoenix canariensis*)



Mediterranean  
climates





# Fusarium wilt – Symptoms



**Figure 3. Symptoms of Fusarium wilt. A: pinnae brown on one side. B: reddish-brown internal petiole tissues with a slight pinkish blush. C: dark streaking along the rachis or petiole.**  
Donald R. Hodel



Raj Singh



Raj Singh



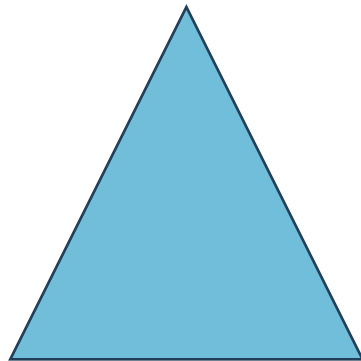
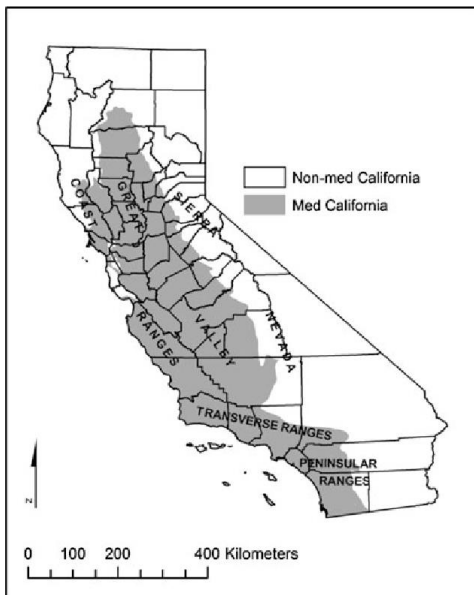
Raj Singh



# Fusarium wilt – Management

## *Fusarium oxysporum* f. sp. *canariensis*

- ✓ Avoid excessive pruning.
- ✓ Clean and disinfect all tools before working on each palm.
- ✓ Avoid pruning in windy weather to prevent the spread of sawdust.
  - ✓ Remove any affected palms as soon as possible.



## Canary Island Date Palm (*Phoenix canariensis*)

- ✓ Obtain palm from a reliable nursery.
- ✓ Avoid poorly drained soils and excessive irrigation, which can lead to above-ground root formation. Do not use contaminated mulch.
- ✓ Avoid planting a Canary Island Palm where another has died in the past, as the fungus can persist in the soil; instead, choose a Fusarium-resistant palm variety.

# Fusarium wilt – Desinfection of tools

- ❖ Immerse in 1:3 pine-oil-to-water solution for 10 min
- ❖ Immerse in 1:1 household bleach for 10 min
- ❖ Heat for at least 10 sec per side with a butane torch
- ❖ Chain saws are difficult to clean, use manual pruning or consider a new saw for each tree.

**DO THIS FOR ALL TOOLS, INCLUDING THOSE USED FOR TRIMMING AND THOSE USED NEAR THE ROOT ZONE**

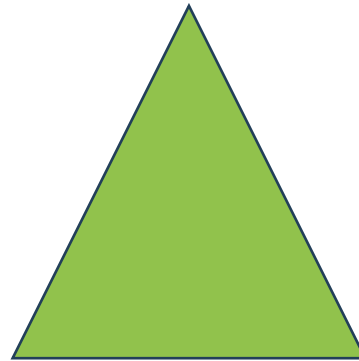
# Pink rot – Disease Triangle

*Nalanthamala vermoeseni*

(previously called *Penicillium vermoeseni* or *Gliocadium vermoeseni*)



**Stressed or weakened palms with unhealthy or suboptimal growth.**



**Nearly all outdoor landscape and indoor palms in CA:**

- King palms
- Bamboo palms
- Date palms
- Kentia palms
- Queen palms
- Chinese windmill palms
- California fan palms

# Pink rot – Symptoms and signs



Leaf bases



Inflorescences



Petiole rachises



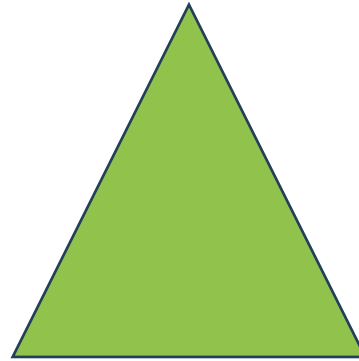
New emerging leaf

# Pink rot – Management strategies

*Nalanthamala vermoeseni*

Fungal spores travel by wind and water

Until cultural problems can be corrected, the use of fungicides after heavy pruning may be beneficial



High humidity and temperatures of 65° to 80°F favor the pathogen and disease development

## **Avoid these conditions:**

- Palms planted too deeply
- Transplanting in winter or fall
- Excessive irrigation
- Poor drainage and root aeration
- Other diseases or pests
- Cold weather or freeze damage
- Inappropriate pruning
- Premature leaf removal
- Poorly adapted species



# References



Pest Notes, Publication 74148

Revised July 2019

UC IPM



## Palm Diseases in the Landscape

Integrated Pest Management for Home Gardeners and Landscape Professionals

Several major, potentially lethal diseases can attack landscape palms in California (Figure 1). The best strategy for managing these diseases is an integrated approach that combines prevention, exclusion, sanitation, appropriate species selection, and proper care. Selecting the right palm for the right spot, then planting and caring for it properly, are critical to avoid most diseases or help palms recover from some diseases.

Maintain healthy, vigorous palms through appropriate selection and cultivation.

- Select the right palm for the right place.
- Plant and transplant palms correctly.
- Follow appropriate irrigation practices.
- Apply a specialized palm fertilizer—one high in nitrogen and potassium with half as much magnesium as potassium—following label rates and directions.
- Keep turfgrass, groundcovers, shrubs, and weeds at least 2 feet away from the trunk, and maintain mulch several inches deep over this area.
- Apply mulch.
- Minimize pruning and other cultivation practices that can wound palms.
- Avoid using chain saws and tree spikes, because they can spread inoculum and cause wounds.
- Use straight-edge, manual saws, thoroughly disinfect blades before use on each palm, and prune out and appropriately discard of infected material and palms.
- Don't recycle or chip infected material for use as mulch, because it might contain and spread the pathogens.

### Author:

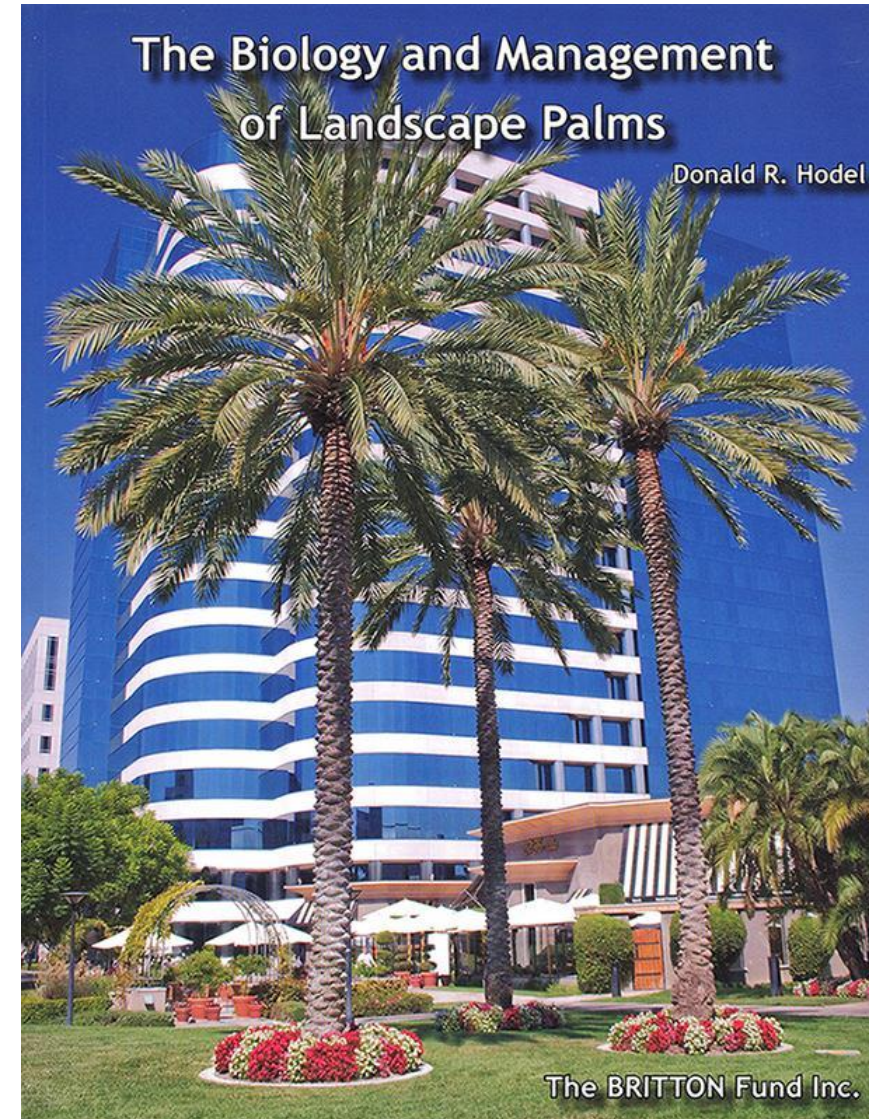
Donald R. Hodel, UC Cooperative Extension, Los Angeles County.



Figure 1. Palm diseases often lead to a reduced leaf canopy. From top left: California fan palm with diamond scale; Canary Island date palm with *Fusarium* wilt; California fan palm with petiole blight.

Even if you inherit a poorly adapted or managed palm, providing proper care can significantly reduce the chances for disease development and help reduce disease severity. Prevention is usually better than treating a disease after it develops, and in some instances, it is the only option. Use fungicides only as a last resort.

Table 1 provides quick identification of the major palm diseases discussed in this publication. Table 2 lists common palms in California, their botanical names, and their resistance or susceptibility to these diseases.





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