

## Symptoms Useful in Field Diagnoses of Several Palm Wilt Diseases Common in South Florida Landscapes.

(by Joe Garafolo, Miami-Dade County Extension, modified by Monica Elliott and Doug Caldwell. Sept, 2002)

| Disease                               | Most Useful Symptoms  | Other Useful Symptoms  | Most Susceptible Palms  |
|---------------------------------------|---|--|---|
| <b>Phytophthora bud rot</b>           | <ol style="list-style-type: none"> <li>1. <u>only</u> the bud withers and rots</li> <li>2. bud has foul odor</li> </ol>   | <ol style="list-style-type: none"> <li>3. spear leaf rots at base</li> <li>4. spear leaf is easy to pull out</li> </ol>  | <ol style="list-style-type: none"> <li>1. <i>Washingtonia robusta</i></li> <li>2. <i>Cocos</i></li> <li>3. <i>Areca</i> in nursery situation</li> </ol>   |
| <b>Ganoderma butt rot</b>             | <ol style="list-style-type: none"> <li>1. conk or button on lower trunk</li> </ol>  | <ol style="list-style-type: none"> <li>2. general wilt, with older fronds drooping or leaflets roll back along rachis</li> <li>3. rusty oozing and staining of lower trunk bole plus frond drooping</li> </ol>   | <ol style="list-style-type: none"> <li>1. ALL palms</li> </ol>  |
| <b>Thielaviopsis bud or trunk rot</b> | <ol style="list-style-type: none"> <li>1. trunk falls over, bending near middle</li> <li>2. crown falls off trunk</li> <li>3. stem-bleeding at base or usually higher; is black and gummy</li> <li>4. punctures into decayed areas of trunk reek of wine or beer</li> </ol>   | <ol style="list-style-type: none"> <li>5. fallen trunk hollow at base, nothing but stringy fibers inside as support tissue is disintegrated.</li> <li>6. Infected areas of trunk are soft and sunken</li> </ol>  | <ol style="list-style-type: none"> <li>1. ALL palms</li> </ol>  |
| <b>Lethal Yellow (phytoplasma)</b>    | <ol style="list-style-type: none"> <li>1. coconuts: fruit drop, stem end brown to black &amp; water soaked</li> <li>2. coconuts: Emerging flower tips are chocolate brown instead of creamy-yellow; inflorescence droops instead of upright.</li> <li>3. leaf symptoms vary with palm species, and coconut varieties</li> </ol> | <ol style="list-style-type: none"> <li>4. Jamaican Tall: 3<sup>rd</sup> or 4<sup>th</sup> new leaf turns yellow; oldest leaf breaks parallel to trunk; no leaf wilt symptoms</li> <li>5. Malayan: wilt symptoms only, with individual leaflets wilted and folded up; no yellowing</li> <li>6. Christmas: similar to JT but without yellowing; oldest leaves may bronze</li> <li>7. Pritchardia: spear leaf death is first symptom</li> </ol> | <ol style="list-style-type: none"> <li>1. <i>Cocos</i></li> <li>2. <i>Phoenix</i> spp.</li> <li>3. <i>Pritchardia</i> spp.</li> <li>4. <i>Veitchia</i> spp.</li> <li>5. Christmas palm</li> <li>6. <i>Livistona</i> spp.</li> </ol> |
| <b>Fusarium Wilt</b>                  | <ol style="list-style-type: none"> <li>1. progressive wilt/death of leaflets</li> <li>2. from base up one side of rachis to tip,</li> <li>3. then down the other side, back to the base</li> </ol>  | <ol style="list-style-type: none"> <li>3. one side of tree wilts</li> <li>4. brown streak at base of petiole</li> <li>5. vascular tissue of petiole is brown</li> <li>6. fungal hyphae may be seen in cross-section of petiole</li> </ol>  | <ol style="list-style-type: none"> <li>1. Canary Island Date Palm (<i>Phoenix canariensis</i>)</li> </ol>   |
| <b>Lightning strike</b>               | <ol style="list-style-type: none"> <li>1. rapid (1-2 days) collapse of entire crown</li> </ol>  | <ol style="list-style-type: none"> <li>2. bleeding (brownish color) from streaks or shot holes</li> </ol>  |   |
| <b>Cold Damage</b>                    | <ol style="list-style-type: none"> <li>1. desiccation of foliage (whole leaf or irregular pattern) within days of cold or freezing weather; tips of foliage browned</li> </ol>  | <ol style="list-style-type: none"> <li>2. lower fronds brownish-gray on <i>Cocos</i>, hang limp</li> <li>3. secondary bacterial bud rot occurs 1-3 months after cold/freezing weather</li> <li>4. nuts with scattered, irregular, black markings</li> </ol>  |   |



Lower trunk “bleeding” as with this queen palm may occur with ganoderma butt rot disease.



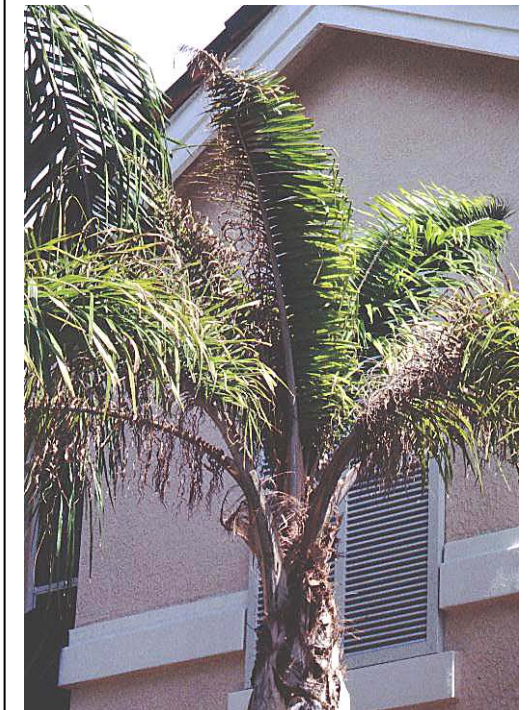
The stringy fibers in this Washington palm stump and the rank, skunky wine odor, indicate thielaviopsis disease did it in.



A dark red to black, thick oozing, midway and higher on the trunk, is one symptom of thielaviopsis trunk/bud rot disease.



One of the first symptoms of palm lethal yellowing is sudden fruit drop of all sizes, small, medium & large nuts. The stem ends are blacken and water-soaked.



Fusarium wilt disease will produce one-sided leaflet death on lower fronts with Canary Island date palms. This symptom, with queen palms, on new fronds, could be Mn deficiency.