

Deadly New Diseases Are Killing Our Palms

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There is a new killer in our landscapes and it is called Texas Phoenix Palm Decline. This new disease is caused by a phytoplasma (a type of bacteria that lacks a cell wall). It is very similar to the phytoplasma that causes another fatal disease in palms: lethal yellowing. Lethal yellowing may also be coming into our area.

Texas Phoenix Palm Decline (TPPD) was first discovered in late 2006 in the Ruskin/Apollo Beach area. Phoenix palms were showing symptoms that were very similar to lethal yellowing. Upon further study, a totally new and different organism was found that was causing these symptoms in the palms. TPPD had arrived on our shores from Texas.

Initially, the palm species affected by this disease were the *Phoenix* species, specifically *P. canariensis* (Canary Island date), *P. dactylifera* (date palm), *P. sylvestris* (silver date palm) and *Syagrus romanzoffiana* (queen palm). A devastating new PRELIMINARY finding is that it is now also affecting our state tree, the *Sabal palmetto* (Sabal palm).



The first obvious symptom of this disease on mature palms is a premature drop of most or all fruits (assuming the fruit stalks have not been removed and the palm is old enough to produce fruit). Death of the flowers also occurs.

Secondly, a discoloration of the foliage beginning with the oldest (lowest) fronds is seen. The fronds do not turn yellow (or only briefly) but quickly turn varying shades of reddish-brown to dark brown or gray. This discoloration begins at the leaflet tips. This symptom can also be confused with other palm problems such as nutrient deficiency or Ganoderma butt rot (another deadly disease). There will also be a greater number of dead fronds on a palm than would be normal. When less than one-third of the oldest fronds have discolored and died, the spear leaf (newest frond) dies. If palms are being regularly trimmed, this early symptom will not be seen because these fronds would have already been removed. It is the fronds below the horizontal line of the canopy (9 and 3 o'clock) that would be the first indicator fronds.

ALWAYS REMEMBER: Palms should never be pruned above the 9 and 3 o'clock position.

Once the spear leaf dies, no more fronds will be produced and the palm is essentially dead. The remaining fronds will continue to discolor from oldest to youngest and die. Usually, by the time the spear leaf has died, the roots of the palm at or near the soil surface are unusually soft in texture and easily broken. The palm can be easily rocked back and forth in the ground because the root system is rotting. This is now a hazardous palm that can easily topple over.

If the spear leaf has not died yet, the disease can be treated with the antibiotic oxytetracycline HCl (OTC). Injections of this antibiotic will be needed every four months. This antibiotic treatment can also be used preventively to protect palms when this disease, or lethal yellowing, is known to occur in the area. For a self-administered, on-going prevention program the cost based on treating less than 5 trees would be approximately

\$4.00/tree per treatment. This is based on an ongoing program, the reuse of needles and syringes, and utilizing the casing for 2 treatments. This does not include the cost for drills, drill bits, labor, insurance, etc. The above prices are approximate costs for the OTC and casings only. This antibiotic can be obtained from: www.palmtreesaver.com

If the spear leaf is dead the palm should be removed as soon as possible.

Positive diagnosis must be confirmed by a laboratory test. For sampling and mailing instructions, see this document at: <http://flrec.ifas.ufl.edu/pdfs/LY-TPPD-Trunk-Sampling.pdf>

A second deadly new disease to hit our area is the Fusarium Decline of queen palms and Mexican fan palms.



Symptoms of this fungal disease on queen palms begin on the oldest 2 to 3 fronds which turn brown but do not break or hang down. The next 2 to 3 younger fronds will turn varying shades of yellow and then brown. This will continue up the canopy until the entire palm canopy is brown. As the fronds are dying, there will be a brown stripe on the rachis (frond stem). Initially, there may also be one-sided death of the frond, with leaflets on one side of the frond turning brown while the leaflets on the other side are still green. The palm dies within a few months of infection.



Symptoms on Mexican fan palms also follow this same general pattern. However, be aware that Mexican fan palms can get a petiole blight disease that is not normally fatal and is different from the Fusarium decline which is always fatal. Only a laboratory test can determine which disease is present.

Palms with Fusarium decline should be removed immediately and the canopy destroyed. There is no cure once a palm is infected, and no preventive fungicide treatment is recommended. The disease is probably spread by wind into new sites and could also be spread by contaminated pruning tools. Always make sure pruning tools are sterilized after each palm is trimmed or use a new saw blade.

All you can do at this point is to keep a sharp eye on your palms, stop trimming them so you can see early symptoms, and keep your fingers crossed that we don't lose all of our palms to new and old diseases.

For more information contact the Extension Service Horticulture Helpline Tuesday, Wednesday or Thursday, 9 AM to noon and 1 to 4 PM, by calling 582-2110. Or visit the office M-F, 8 AM to 5 PM. You can see a narrated presentation about TPPD at: <http://pinellascountyextension.org> (select the commercial horticulture link). The presentation is located in a box on the right-hand side of the page that says 'presentations'. You can also visit (Google) the Ft. Lauderdale Research and Education website and follow the links to palm diseases.

Information and pictures for this article were provided by Dr. Monica Elliott, Plant Pathologist, University of Florida/IFAS, Ft. Lauderdale Research and Education Center.

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