

Just the Facts

Solutions for Your Landscape

Palm Diseases Caused by Phytoplasmas: *Lethal Yellowing and Texas Phoenix Palm Disease*

Even though palms have similar symptoms, DNA analysis has determined that the phytoplasmas causing Lethal Yellowing and Texas Phoenix Palm Decline are genetically distinct.

Lethal Yellowing (LY):

- First Observed in Florida in the 1970s
- 2007 observed in **Sarasota County** on *Phoenix canariensis*
- Spread by the planthopper *Myndus crudus* (vector)
- There are 36 palm species known to be susceptible to LY
- Highly susceptible palms, not recommended for widespread use in areas where LY is known to occur:
 - Coconut (*Cocos nucifera*)
 - Christmas Palm (*Adonida merrillii*)
 - Date Palm (*Phoenix dactylifera*)
 - *Pritchardia* spp.
- Mild winters during the last decade, may have allowed the plant hopper to move further north in the state
- Lethal yellowing, often referred to as LY, is described in detail in the UF/IFAS Extension document located at <http://edis.ifas.ufl.edu/PP146>



Texas Phoenix Palm Decline:

- Observed in late 2006, Ruskin/Apollo Beach/Balm central Florida area
- Recently confirmed in the landscape and field nursery sites from Sarasota County, north to Hillsborough County
- The vector is unknown.
- Susceptible host: *Phoenix* Spp.: *P. canariensis*, *P. dactylifera*, and *P. sylvestris*
- Symptoms appear to be exactly the same as those associated with LY of *Phoenix* spp. (see back for specific details)



Texas Phoenix Palm Decline Symptoms: Mature Palms

Premature drop of most or all fruits

- Inflorescence (flower) necrosis (death) follows
Discoloration of the foliage, beginning with the oldest leaves
- Leaves do not turn yellow (or do so briefly), but quickly turn varying shades of reddish-brown to dark brown or gray
- When less than one-third of the oldest leaves have discolored and become necrotic, the spear leaf dies
- Greater number of dead lower leaves than would be normal - *symptoms might be confused with other problems such as, nutrient deficiency or Ganoderma butt rot.*



Texas Phoenix Palm Decline Diagnosis:

Phoenix species have numerous leaves surrounding the spear leaf; therefore, physical inspection is required:

- a. Must confirm the health/condition of the spear leaf
- b. The young spear leaf on Canary Island date palms is often enclosed in a sheath that is brown and very thin (it tears like paper).
- c. Do not confuse this brown sheath for a dead spear leaf

To confirm a field diagnosis of Texas Phoenix decline with a laboratory test, contact Dr. Monica Elliott (melliott@ufl.edu) for complete sampling and mailing instructions and current cost (\$75). Sampling includes boring into the trunk, and the quality of the sample is critical for an accurate diagnosis.



Texas Phoenix Palm Decline Management:

1. If the spear leaf is dead, the palm should be removed as soon as possible. No more growth can occur; the diseased palm serves as a source of the phytoplasma that can be transmitted to healthy *Phoenix* palms by the insect vector.
2. If the spear is alive, therapeutic treatment with OTC injections every four months may be recommended. The antibiotic can also be used preventively to protect palms when Texas Phoenix decline is known to occur in the area
3. The only source of oxytetracycline HCl (OTC) a EPA registered product, is TreeSaver®
<http://www.palmtreesaver.com>
4. As with LY, disease management of Texas Phoenix decline via control of the vector population would not be recommended, since the vector is unknown at this time.
5. Use of host resistant plants is the most practical long-term solution;

However, the complete palm host range of this phytoplasma is not known

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