

Lethal Bronzing in Palm

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Lethal Bronzing

In the late 1970s, a lethal disease of palm trees first appeared in the Rio Grande Valley. The symptoms resembled those of the phytoplasma-caused lethal yellowing disease already well-documented in Africa, the Caribbean, and Florida. Electron microscopy showed phytoplasma cells in the phloem (vascular) tissues of the infected palms, which led to the presumption that the disease was caused by the lethal yellowing phytoplasma.

In 2001, many palms in the Corpus Christi area exhibited the same symptoms and began declining. In 2002, the disease was identified as a phytoplasma distinct from, but related to, the lethal yellowing phytoplasma. Lethal Bronzing Disease (LBD), formerly known as Texas Phoenix Palm Decline (TPDD), is the only known phytoplasma disease of palms in Texas. It affects *Phoenix spp*, *P. canariensis*, *Syagrus romanzoffiana*, and *Sabal palmetto*.

Phytoplasmas are a specialized group of bacteria that infect only plants. They belong to the class Mollicutes, have no cell wall, and cannot survive outside of a living host. Phytoplasmas cause disease on a wide range of plant hosts and are typically transmitted by leafhopper, planthopper, and palm cixiid insects.

Symptoms

The disease symptoms progress in chronological order. Both the combination of symptoms and their progression are important in evaluating the possible presence of the disease, since other diseases and stress factors can cause many of the same symptoms.

1. Typically, the first symptom on mature, fruit-bearing trees is the dropping of most or all of their fruit within a few days (Fig. 1).
2. A red to brown necrosis (death of the plant tissue) of the oldest leaves can occur simultaneously or follow next, progressing from leaf tips to the base of the leaves.
3. On Phoenix palms, after the first set of oldest leaves die, the central spear leaf dies. This is the most indicative symptom associated with this disease.



Figure 1. Loss of fruit from a *Phoenix canariensis*.

Photo by Monica Elliot, Symptoms of Palm Diseases and Disorders, USDA APHIS PPQ, Bugwood.org

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4. Although it may often go unnoticed, moderate to extensive root necrosis and decay typically occurs by this time, sometimes to the extent that the tree can be rocked back and forth by pushing on the trunk. Trees affected by this pathogen have more extensive root decay than trees affected by the lethal yellowing phytoplasma.
5. The remaining leaves will continue to die progressively from the lower crown upward (older leaves to younger leaves) (Fig. 2).
6. The tree will die completely within a year.

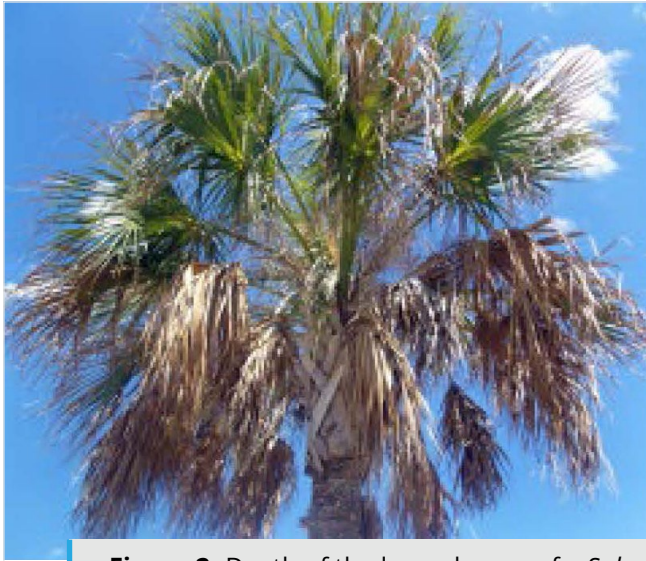


Figure 2. Death of the lower leaves of a *Sabal palmetto* infected by date palm. Photo by Jorge Lozano

Phoenix canariensis, *P. dactylifera*, *P. sylvestris*, *P. reclinata*, *P. roebelenii*, *Sabal palmetto*, and *Syagrus romanzoffiana* palms can host this disease. In Texas, the most frequently affected species is *P. canariensis* because it is widely used in landscape plantings and is susceptible to this disease. Nurseries can monitor quarantined palms grown in Texas and coming from out of state. Sample suspected trees according to [sampling guidance instructions](#). Samples may then be sent to the [Texas Plant Disease Diagnostic Lab](#) for testing. The laboratory uses molecular methods to determine the presence of phytoplasma.

Management

Sample and test symptomatic host trees. If a tree is positive, report the results to the Texas Department of Agriculture and remove the tree. To prevent infection in areas known to have had the disease, healthy trees can be treated with trunk injections of oxytetracycline HCl. To remain effective, repeat the applications every few months for the remaining life of the tree or if there is a threat of infection.

Quarantines are established in areas where the disease is prevalent and around confirmed infected trees to restrict moving susceptible host tree species out of these areas. As of January 2026, sections of Cameron, Hidalgo, Galveston, and Harris counties are under quarantine. For additional details, visit the Texas Department of Agriculture's [Pest and Disease Alerts](#) web page.

Quarantined palms located within 1 mile of a known infected tree may:

- ▶ Not move for a period of 6 months following the removal of an infected tree;
- ▶ Have been treated, as approved by the department, for a minimum period of 3 months during the 6-month period following the removal of an infected tree; and
- ▶ Be allowed to move after 6 months if no other infected trees are found within a 1-mile radius.

Quarantined palms located more than 1 mile and less than 2 miles from known infected trees must:

- ▶ Be inspected within 24 hours prior to shipment with no symptoms of lethal decline apparent;
- ▶ Have been treated, as approved by the department, for a period of 3 months prior to shipment;
- ▶ Be treated within 48 hours prior to movement; and
- ▶ Be allowed to move when accompanied by a phytosanitary certificate over a 3-month period since completion of the treatment.

A phytosanitary certificate is not required for shipments made beyond 6 months since the detection of an infected tree.

Visit the websites below for more detailed information on regulations regarding this disease.

- ▶ [Texas Department of Agriculture Regulatory Programs: Quarantine](#)
- ▶ [Texas Department of Agriculture Regulatory Programs: Pest and Disease Alerts](#)