UFIFAS BOGS

Lethal Bronzing: A Destructive New Palm Disease

Lethal Bronzing, previously called *Texas Phoenix Palm Decline*, is a relatively new bacterial disease (called a phytoplasma) that is causing significant palm losses in Palm Beach County, and throughout much of Florida. It is believed to have originated in the Yucatan Peninsula of Mexico and may have been carried to Florida in the salivary glands of a tough insect vector by Hurricane Wilma. The disease was first found in Florida in 2006 and initially followed the path Hurricane Wilma had taken the previous year. Symptoms are similar to lethal yellowing, but currently are known to affect a much smaller number of palm species. A few palm species are known to be susceptible to both diseases.

The colonized and then damaged vascular system (phloem tissue) of the palm leads to wilting, and eventually death. University of Florida/IFAS research is determining which sap feeding insect(s) may spread it. The one confirmed so far is *Haplaxius crudus*, a planthopper and palm sap feeding insect, also known as the American palm cixiid. It spends most of its life cycle in the soil and only emerges as an adult to mate and feed on palm fronds.

Palms currently known to be affected by lethal bronzing (as of May 2019) include Christmas Palm, Bismarck Palm, Pindo Palm, Carpentaria Palm, Coconut Palm, Chinese Fan Palm, Canary Island Date Palm, Edible Date Palm, Pygmy Date Palm, Wild Date Palm, Fiji Fan Palm, Buccaneer Palm, Mexican Palmetto, Cabbage Palm, Queen Palm, and Chinese Windmill Palm. Undoubtedly this list of susceptible palms will grow now that the disease has been detected in Miami-Dade County, where Florida's richest diversity of palm species are found.

Symptoms

If flower spikes are on the palms, they tend to turn black and die. If any fruit, it usually drops prematurely. Later, symptoms begin with the older, lower fronds sometimes turning a subtle bronzish (looks more reddish-brown-grayish to some) before they turn fully grey and die. The central spear leaf usually dies by this time. Symptoms progress over about a 4-5 month period before the palm is completely dead. However, single trunk palms are effectively dead once the spear leaf or leaves die, even if there are still some green lower fronds. Symptoms are often confused with nutrient deficiencies like potassium, or Fusarium fungal wilt on susceptible palms. Potassium deficiency can be distinguished from lethal bronzing because the potassium usually takes multiple years of deficiency between symptoms first appearing and palms dying.



Lethal bronzing symptoms on sabal palm. Photo: UF/IFAS Schall

What Can You Do?

The disease is confirmed by laboratory analysis of tissue extracted from the trunk. Remove and dispose of infected symptomatic palms so they cannot serve as an inoculum source for other surround susceptible palms. Administer antibiotic injections to non-symptomatic susceptible species growing around removed palms. Inject oxytetracycline at **3 grams** per palm (**1 gram** for small species like Christmas or pygmy date palms). Repeat injections every three months for at least two years. The oxytetracycline may not be adequate to save palms already showing symptoms. This is particularly true if the spear leaf or leaves are already dead.

Additional information and photos can be found in the UF/IFAS publication Lethal Bronzing Disease.

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