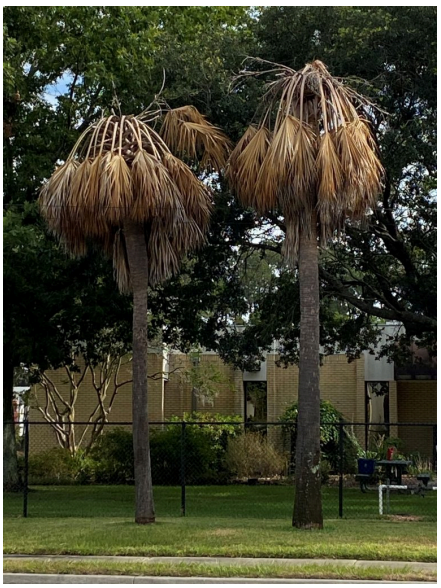
Lethal Bronzing, a palm disease on the rise



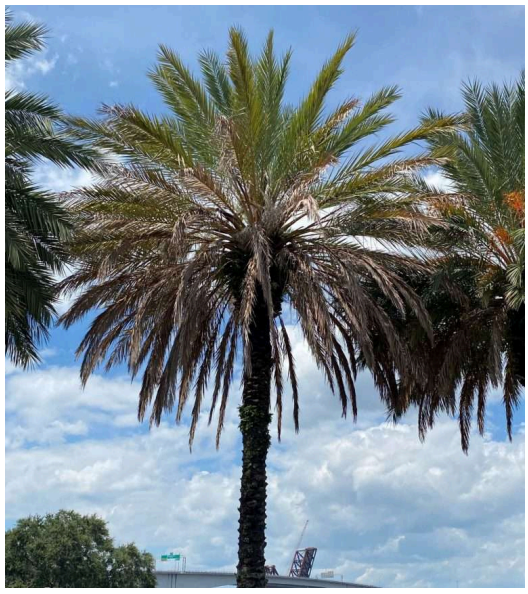
Palms killed by lethal bronzing

If you have palms in your landscape or are thinking of planting palms you may want to know more about Lethal Bronzing. Lethal Bronzing (LB) is a serious disease of palms that has become more prevalent in NE Florida. It is often called a "new" palm disease. However, it was first discovered in Hillsborough County almost 20 years ago and has now spread to 36 counties in Florida. In the beginning, the palms known to be affected by LB were limited to just sabal (cabbage) palms and date palms. As the disease has spread throughout the state, it is now known to infect 21 palm species. This number is expected to grow as the disease spreads to new areas with greater palm densities.

What causes lethal bronzing?

The disease is caused by a bacterium without a cell wall called a phytoplasma that is spread from tree to tree by a treehopper called the palm cixiid. The treehoppers feed off the phytoplasma laden sap of an infected tree and carry it to an uninfected tree thereby spreading the disease.

What are the symptoms of lethal bronzing?



The fruit have dropped all at once on this tree. Notice the fruit on the adjacent tree

The first noticeable symptom of LB is any fruit and/or flowers on the tree drop all at once. That may not be noticed if the flowers or fruit have been pruned out. The next symptom is the central spear leaf that typically emerges from the top of the tree dies. The death of the spear leaf is an indication of the death of the main growth point of the palm commonly called the “heart”. This is followed by fronds turning a reddish-bronze color as they dry out and die starting from the from the lower fronds progressing upwards to the top frond.

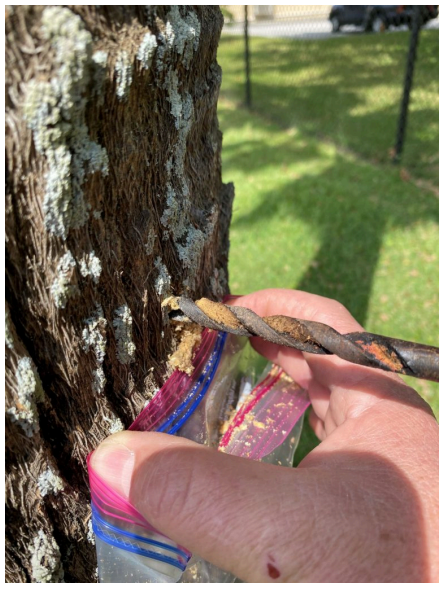
Notice the bronze color of the foliage

The first symptoms are noticeable four to five months after the tree is infected with the phytoplasma. Typically, most palms die 2-3 months after the first symptom is observed.

The symptoms are similar to other palm diseases, so if you suspect lethal bronzing; it is recommended that you send a sample of sawdust from the core to University of Florida Plant Disease Diagnostic Center (https://plantpath.ifas.ufl.edu/extension/plant-diagnostic-center/). They can test for the presence of the LB phytoplasma in a sample of sawdust from the tree. The sample can be obtained by using a battery powered drill and a sterilized 5/16" drill bit. For detailed instructions on how to collect a sample go to Sampling Palms for Lethal Bronzing (https://edis.ifas.ufl.edu/publication/IN1197) . Once the sample is collected, it is important to keep it refrigerated until it can be shipped to the lab.

What should you do if your tree has been diagnosed with lethal bronzing?

Once a tree has been properly diagnosed or has a positive test result; it should be removed immediately to reduce the chance that the treehoppers can spread the disease to other trees. Nearby palms should also be tested if a tree in the landscape is diagnosed with LB.



Obtaining a sample for testing using a sterile drill bit.

Can lethal bronzing be prevented?

While there is no treatment for palms diagnosed with LB, there are two options that can help prevent the disease in healthy disease-free palms. The first option has been available for a long time. If LB is found in the vicinity, nearby palms that are disease free can be preventatively treated with doses of the antibiotic, oxytetracycline HCl (OTC). The injections should be repeated every

three months. This treatment has been shown to be very effective. It is warranted especially when the palms are integral to the landscape and worth the investment in treatment. The downside to this treatment is that injecting the antibiotic into the tree creates multiple wounds in the palm trunks that, in palms, do not heal. New drill sites need to be used every 3-4 treatments depending on the method of OTC injection. Over time the drill sites start to add up. Additionally, the OTC injection only protects the palm that is treated.

The second option has not been thoroughly studied but shows a lot of promise. It involves using liquid applications of a systemic pesticide called imidacloprid applied to the root area of the palm. The insecticide is then taken up by the tree. Research by Dr. Brian Bahder of the University of Florida has shown that within 24 hours of treatment 90% of the treehoppers in the palm were killed and after 4 days 100% of the planthoppers were killed. This has the potential to provide landscape protection by reducing the population of the planthoppers with no wounds or injections in the tree. The biggest downside to using imidacloprid is that it is harmful to bees. This means that the treatment should only be used in the late summer after the palms have finished flowering. Further research will be able to provide better recommendations as far as timing and how long the pesticide is effective in the tree.

The good news (if you want to call it that), is that this disease cannot be spread by pruning tools as is the case with other palm diseases. Unlike some other palm diseases, any palm species removed because of LB can be planted back into the landscape.

For more information on lethal bronzing go to:

Lethal Bronzing: https://edis.ifas.ufl.edu/publication/pp163

Sampling Palms: https://edis.ifas.ufl.edu/publication/IN1197

Treating Palms with Oxytetracycline.
https://edis.ifas.ufl.edu/publication/IN1240

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by **Larry Figart**

Posted: July 9, 2025

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