

Yellow Palm Fronds: Is it Lethal Yellowing or Something Else? by Kim Gabel, Environmental Horticulture Agent UF/IFAS/Monroe County Extension Services

Since 1937, Lethal Yellowing (LY) has been attacking susceptible coconut palm trees throughout the Florida Keys. Lethal yellowing infects and kills coconut palms and 34 other ornamental non-native palm species. Other palm species that are susceptible include Date palm, (*Phoenix* spp), Christmas palm (*Veitchia merrillii*), Fishtail palm (*Caryota mitis*), and Fiji fan palm (*Pritchardia* spp).

What is Lethal Yellowing of Palms? Researchers have determined that LY is caused by a mycoplasma organism. A mycoplasma is described as intermediate between a virus and a bacterium. Currently, the only known carrier for spreading the LY mycoplasma is by a planthopper, *Myndus crudus*, that sucks the plant juices from infected palm leaves and passes LY onto susceptible palm species as it feeds. It is safe to assume that other phloem feeding insects can also transmit the mycoplasma.

Does my palm have LY? In the Keys, numerous palm trees display yellowing palm fronds caused by nutritional deficiencies (manganese, magnesium, iron), fungal bud rot, insect and nematode problems, or lightning strikes. These palm problems look similar to LY, so let's review the LY symptoms for coconut palms.

Stage 1: Premature dropping of all coconuts. The fallen nuts will have a brown or black area where it had attached to the palm.

Stage 2: The new flower stalks turn black and do not set fruit.

Stage 3: Coconut palm fronds turn yellow then brown, usually beginning with the older fronds and moving upward towards the crown. Affected fronds hang straight down but remain attached to the tree. Eventually the canopy wilts, the bud rots, and the tree dies, leaving a topless trunk.

On other susceptible palm species the yellowing may not be conspicuous; instead, leaves collapse and the palm quickly dies.

What can you do?

- 1) Do not plant susceptible palms. Plant native palms instead. There is a wide selection of natives that do not acquire this disease, such as, Florida Thatch Palm (*Thrinax radiata*), Key Thatch Palm (*Thrinax morrisii*), Silver Thatch Palm (*Coccothrinax argentata*), Buccaneer Palm (*Pseudophoenix sargentii*) and Cabbage Palm (*Sabal palmetto*).
- 2) If you plant certified coconut palms choose "Maypan" or "Malayan Dwarf." These varieties are more resistant to LY, but not 100%. It depends on the seed source and how they are planted and maintained.
- 3) Keep palms healthy. Fertilize as needed with a slow or controlled release "palm special" fertilizer. A good balanced fertilizer should provide nitrogen (N), phosphorus (P), potassium (K), and magnesium (Mg) in a 8:2:12:4 ratio and contain sulfur (S) about 1 to 2%, iron (Fe), manganese (Mn), and trace elements of zinc (Zn), copper (Cu), and boron (B).

For more information about Palm Nutrition, log onto

<http://edis.ifas.ufl.edu/EP052> and for Palm Care,

<http://edis.ifas.ufl.edu/EP119>. Apply organic mulch around the palm tree, not closer than 6" to the trunk. When pruning, do not remove green fronds, only brown dead fronds. Do not use a weed whacker around the base of the palm trunk because the wounds will not heal. Avoid using pea rock mulch because it promotes nutritional deficiencies.

4) Susceptible palms may be inoculated by a certified professional. The University of Florida Institute of Food and Agricultural Sciences recommends inoculating only those coconut palms considered valuable to the landscape and continue injecting for the life of the palm. For successful treatment, palms need to be inoculated before or during the very first stage of the disease. Since injections are an ongoing process, it is suggested to replant with native or resistant palms while inoculating the susceptible palms. Once the planted palms have reached a mature height, stop the injections and let mother nature take its course.

Lethal Yellowing is a plant disease that will continue to infect and kill coconut palms and other susceptible palms. Only by being informed about what LY is, how it spreads, and proper care and maintenance of palm trees can you minimize it attacking your palms.