

Q: *Is Lethal Yellowing disease of palms very widespread in the Cayman Islands?*

A: Currently, the disease is confined to Little Cayman along the northeast and south eastern coast of the island. A few cases were observed and confirmed in Cayman Brac during 2004. Since Hurricane Ivan there has been no reoccurrence of the disease in Cayman Brac. Grand Cayman appears to be free of this lethal disease.

Q: *Is there any cure for LY?*

A: No. However, the use of oxytetracycline HCL antibiotic to inject into the trunk of infected palms has been found to delay the progress of the disease. It does not cure the palm and the injections must be repeated every 3 to 4 months for the life of the palm to prevent re-appearance of the symptoms. This is not a practical method and could have adverse effects on humans especially if used on coconuts palms and the fruits from treated palms are used for food or drink.

Q: *Can the spread of LY be controlled by controlling the plant hopper?*

A: Attempts to control the plant hopper through the use of pesticides have proved uneconomic and unsuccessful, due to its very wide host range. To date there are no biological agent available to control this pest.

Q: *Is the Silver Thatch Palm (*Coccothrinax proctorii*) susceptible to LY?*

A: The Silver Thatch Palm, Cayman Islands' National Tree, is not known to be susceptible to LY and has survived past outbreaks of the disease. However, currently scientists have reported new strains of the Phytoplasma. Whether or not the Silver Thatch palms will be able to resist the new strain is unknown.



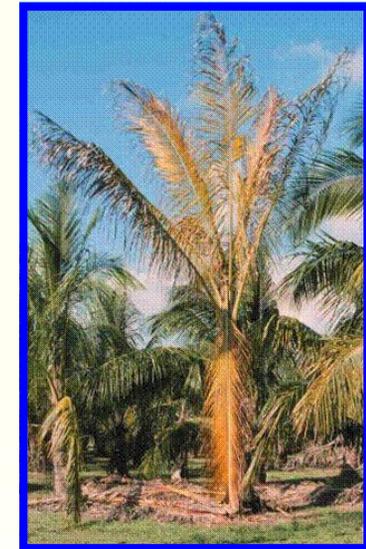
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Information Sheet

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Frequently Asked Questions about Lethal Yellowing



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Q: What is lethal yellowing?

A: Lethal yellowing (LY) is a deadly disease of palms. Its symptoms have been seen in many types of palms, but it is most common in coconut and Christmas palms.

Q: What causes the disease lethal yellowing?

A: Lethal yellowing is caused by a Phytoplasma, which is a small organism that cannot be seen with the naked eye. It is larger than a virus but smaller than a bacterium.

Q: How is lethal yellowing spread?

A: Lethal yellowing is spread by an insect, a plant hopper called *Myndus crudus*. The planthopper ingests the Phytoplasma when it feeds on an infected palm. Once it has fed on an infected palm, the planthopper can infect other healthy, susceptible palms that it feeds on, much like how a mosquito transmits diseases in humans.



hopper (*Myndus crudus*)

Figure 1 The plant

Q: Can my palms contract lethal yellowing by coming in contact with an infected palm or by trimming an infected palm and then a healthy one?

A: No. The Phytoplasma can only be spread by the insect vector. The insect's body acts with the organism and makes it transferable. Scientists have not been able to infect healthy palms successfully by injecting them with active Phytoplasma.

Q: I've heard that some palms are resistant to LY. What does this mean?

A: In the past growers successfully combated the spread of LY by replacing susceptible varieties with more LY tolerant cultivars. During the 1980s the Malayan Dwarf and its hybrids showed very high tolerance to the disease. The popular "Maypan," hybrid (a cross between a Malayan Dwarf variety and a Panama Tall variety) also showed great tolerance to LY disease. This strategy proved very successful and the Maypan showed very good resistant to LY for many years. More recently, however, this variety is being affected by LY. As a result, scientists are actively working to determine the cause of what appears to be a breakdown in resistance and at the same time testing newer hybrids for their tolerance to LY disease.

Q: How do I know if my palm has lethal yellowing?

A: Lethal Yellowing symptoms are very visible on an infected palm. Mature palms develop four (4) main symptoms stages. These are:

Stage 1 is called "Shelling" and is the earliest symptom. During shelling all the fruits on the palm, regardless of size, begin to fall from the palm prematurely.

Stage 2 is called "Blackening" and refers to the black colour of the new clusters of flowers (inflorescence) on infected palms. Blackened inflorescences is the most unique symptom of LY disease.

Stage 3 is called "Yellowing" and refers to the sudden change of the fronds (leaves) from green to brown depending on the variety. The dis-colouration progresses up the crown from the oldest to the youngest frond. The disease is named after this typical "yellowing" that occurs during the third stage in the development of the disease.

Stage 4 is the "Frond fall" stage and occurs rapidly leaving the bare trunk of the dead palm.

Stage 1 ...
Shelling



Stage 2 ...
Blackening



Stage 3 ...
Yellowing



Stage 4 ...
Frond Fall



Q: Is Lethal Yellowing a new plant disease to the Cayman Islands?

A: No. Lethal Yellowing disease has been reported in the Cayman Islands since 1834. A serious outbreak which occurred during the 1950s and 1960s destroyed all the very susceptible Jamaica Tall palms that were here.