ARBORJET®
Revolutionary Plant Health Solutions

LETHAL BRONZING MANAGEMENT PROGRAM

Lethal Bronzing (formerly known as Texas Phoenix Palm Decline) is caused by *Phytoplasma palmae* (a mollicute similar to bacteria but lacking a cell wall) that is closely related to Palm Lethal Yellowing. Lethal Bronzing was first described in 1980 in Texas, and first reported in Hillsborough County, FL in 2006. Since 2006, it has spread throughout Florida, mostly around the central part of the state. Lethal Bronzing is vectored by a piercing-sucking insect (the palm cixiid, *Haplaxius crudus*) that are known to spread phytoplasmas to plants. Phytoplasmas infect the phloem, the vascular tissue that moves carbohydrates from leaves to the roots. Lethal bronzing is an infection that causes palms to decline quickly. It is a fatal disease; once a palm is infected, there is no cure.

As its former name implies, Lethal Bronzing infects Phoenix species. In Texas, the disease was reported to kill *Phoenix canariensis* (Canary Island date palm) and P. dactylifera (date palm) in as little as 4 months. Currently there are 16 confirmed hosts of Lethal Bronzing. In Florida, including Phoenix sylvestris (Sylvester palm), P. canariensis, P. dactylifera, P. roebelinii (pygmy date palm), Sabal palmetto (sabal palm), Syagrus romanzoffiana (queen palm), Adonidia merrillii (Christmas palm), Bismarckia nobilis (Bismark palm), Livistona chinensis (Chinese fan palm), and Carpentaria acuminata (Carpentaria palm) (Bahder, 2017).

palm cixiid, *Haplaxius crudus*

Lethal Bronzing Management	Management of Lethal Bronzing involves removal of infected palms and preventative injections of insect (vector) control, disease control, nutrients and antibiotics. Application of Oxytetracycline should be applied every 4 months (3 times per year)
ROUND 1	
Oxytetracycline + IMA-JET®	(Trunk Injected Separately)
ROUND 2	
Oxytetracycline + PHOSPHO-JET™	(Trunk Injected Separately)
ROUND 3	
Oxytetracycline + PALM-JET Mg™	(Trunk Injected Separately)

Apply a labeled insecticide in late July/early August to any turfgrass areas below susceptible palms as the female planthopper (vector) lays eggs at the base of grass plants. It takes anywhere from 10 to 20 days for the eggs to hatch. The duration of each instar is approximately one week under warm conditions, going from egg to adult in 1.5 months (at 30°C) (Tsai and Kirsch 1978).

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