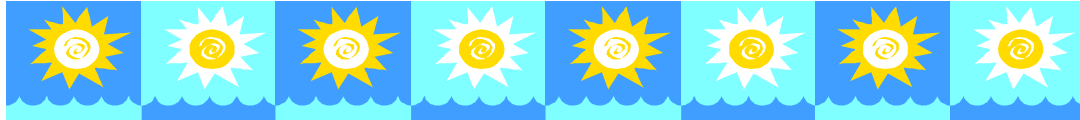


## Commercial Horticulture Update



Nursery/Greenhouse, Retail, Garden Design, Landscape, Turf and Irrigation

20 June 2007

### Be Alert for Outbreaks of Deadly Cycad Aulacaspis Scale

The Sago Palm has long been considered one of those perfect, easy-to-maintain plants for modern landscapes. Known as the Sago Palm King Sago or Cycad, *Cycas revoluta* was one of the most abundant plants on earth during the days of the dinosaur – and it has changed little in appearance over the past 250 million years. Healthy, mature, Sago Palms are worth a lot of money in the landscape and provide great design value. They are long-lived and thrive in harsh conditions. However, a small scale insect now known as the Cycad Aulacaspis Scale (CAS) is proving deadly to Sago Palms everywhere they grow. The insect was first identified in this country in Dade County (Miami) Florida in 1996. It is native to tropical regions of Southeast Asia and probably arrived in this country on legally imported cycads. It was first noticed infesting several valuable cycad species in a Florida botanical garden. From a small initial infestation, the insect has spread through Florida to Alabama, Georgia, Hawaii, Louisiana, South Carolina and Texas. Since the insect has a very limited ability to spread on its own, its spread to adjacent states has been attributed to infested plants sold by wholesale nurseries and by unlicensed roadside plant sellers. In addition, it is very likely that the insect spread on pass-along cycad plants that left Florida in the trunk of a car. It is now found in both landscapes and nurseries. This insect is deadly – a Sago Palm can go *from initial infestation to death in under a year*.

Cycad Aulacaspis Scale has some distinct traits that make it difficult to control and quick to kill even mature Sago Palms. Unlike most other scale insects, CAS can live on the root system up to 24 inches underground. When it hatches, it moves with greater speed and over greater distances than most other scale insects. Populations build up very fast and form layers of living and dead scales. (A heavy infestation will include up to 3000 scales per square inch.) There are no native predators or parasites and the insect infests all parts of the plant – fronds, cones, roots and stems. CAS enters a period of lower activity during the cooler, drier months of the year (late November to early May) but experiences a surge of reproductive activity in spring from surviving scales in leaf crevices and on roots (late May.) This year, drier weather probably held back egg hatching but now that

rains and hot weather have arrived over much of southeast Georgia, the scale should be kicking into high gear. Now is the time to scout landscape and nursery plants for early detection of scale populations. Field identification is not especially difficult although CAS may be confused with False Oleander Scale (also known as Magnolia Scale.) Enough differences exist to make identification possible with the help of a 10x hand lens.

1. The False Oleander Scale has a more elongated prosoma (body) beneath the scale-like covering than does CAS.
2. Both the prosoma and egg mass of False Oleander Scale are yellowish while CAS has an orange prosoma and eggs.
3. False Oleander Scale occurs in much smaller numbers and is most often confined to the lower surface of fronds. This scale is not a serious threat to the health of Cycads.
4. CAS populations build very rapidly to high numbers and cover all portions of the plant. Infestations of CAS often begin in the crown and from old leaf bases. Crawlers spread quickly to cover the surface of fronds.

Oil sprays should be your first response; if used early and often this may be enough to control or eliminate the insect on your plants. Paraffinic oils or ultrafine horticultural oils such as Sunspray™ as well as fish oils – not *fish emulsion* – such as Organocide™ can give effective control. Malathion™ mixed with oil has given good, low cost control but is hard on beneficial insects. Apply oil sprays to the entire plant at 10 days to 2 week intervals throughout the summer. Occasionally wash the plant with a strong stream of water to remove oily buildup and layers of dead – and living – scale insects. This cleanup also helps keep the plant looking good. Newer chemistry includes Distance™ or pyriproxyfen, an insect growth regulator formulated to be sprayed onto the foliage. Safari™ or dinotefuran is a systemic control that is water soluble and can be either drenched or applied twice a year to foliage to give excellent control. Cygon™ is no longer in production but it is still legal to use what you have on hand and gives good control. Please note: Merit™ and Marathon™ (imidicloprid) have not been effective or have given inconsistent control.

At first, horticulturists could predict only doom for the Sago Palm in the landscape. While it is true that early attempts at treatment were not effective, we now have a better idea of how to control CAS. Since the insect moves so quickly to build populations, and since an infestation can literally cover and kill a Sago Palm in a few months, the control technique of greatest importance is scouting. Nurseries and garden centers must detect and treat or destroy infested plants. Scouting for CAS should become a routine part of landscape maintenance in locations where CAS is present. If you manage landscapes

that include *Cycas revoluta*, or if you produce them in a nursery, or if you sell them in a retail setting, begin NOW to scout for CAS. The life of these plants depends on your quick response to control CAS before populations explode.

For more information, contact your local county extension agent. To locate the UGA Extension Office in your county call 1-800-ASK-UGA1. You can also contact me at [jkwebb@uga.edu](mailto:jkwebb@uga.edu) or 912-921-5460 for more information on CAS control strategies.



Cycad Aulacaspis Scale infesting a frond of *Cycas revoluta*



A heavily infested Sago Palm. The large number of insects gives the fronds a silvery appearance.



Close up view of female scales (left) and smaller, pin-like male scales (right.)



Orange prosoma of Cycad Aulacaspis Scale (scale cover removed.)



More elongated and yellowish prosoma of False Oleander Scale (scale cover removed.)