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## LETHAL YELLOWING SUSCEPTIBILITY OF DATE PALMS IN FLORIDA

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The date palm genus, *Phoenix*, contains 17 species. Six species have found a place in environmental horticulture ([Table 1](#)).

All of the date palm species listed, except for miniature date palm, have been shown to be susceptible to lethal yellowing. The susceptibility of Senegal date palm is questionable, however. The inclusion of this species to the list of susceptible palms was based on positive diagnosis of LY in one palm which had phenotypical characteristics of the Senegal date palm but was thought to be a hybrid.

The cliff date palm and silver date palm have been shown to be susceptible to lethal yellowing. They are relatively uncommon in Florida.

The Canary Island date palm is the most commonly planted date palm in Florida. In some areas of southern Florida, a high percentage of these died from LY during the epidemic of the 1970's and early 1980's, while in other areas of the same region this species was unaffected by the disease. In a 1983 publication (Lethal Yellowing of Palms, IFAS Bulletin 834, by McCoy et. al.), this species was rated as "moderately susceptible" to LY, based on combined estimates of 3 LY researchers who had conducted field observations during the period of the epidemic.

The true date palm, which was less common in Florida than the Canary Island date palm, was rated as "highly susceptible." More recently, observers have rated the true date palm as "slightly susceptible." Such discrepancies are not surprising, when it is considered that different

observers have made their assessments in different areas and at different time periods.

In general, the portions of a population of organisms that becomes infected with a given disease may be influenced by many different factors associated with different habitats and time periods. Thus, it appears that under some conditions, the risk of losing a true date palm to LY might be quite high, and under other conditions the risk might be minimal. Hopefully, this question will be elucidated by further research.

Hundreds of named cultivars of date palm are known in North Africa and the Middle East. Eight cultivars are of commercial importance in California. A preliminary test of lethal yellowing resistance of five of the most important cultivars used in California was attempted at this research center from 1979 to 1985. Offshoots of these palms shipped from California were planted on the Fort Lauderdale R & E Center, where the incidence of LY has very high. The results showed that the 'Deglet Noor', 'Halawy', 'Thoory', and 'Zahidi' cultivars are susceptible to lethal yellowing. Because of the small numbers of palms of each cultivar tested, our results did not show conclusively any differences in susceptibility to lethal yellowing among these cultivars, although a sufficient number of 'Halawy' palms survived to warrant further testing. We are now conducting a more extensive test to determine whether the 'Halawy' is indeed resistant.

Results with the 5th cultivar, the 'Medjool', were inconclusive. This was because only one 'Medjool' survived transplanting (this variety is said to be difficult to propagate with offshoots). Although this single 'Medjool' palm has survived until the present, we do not feel that this constitutes convincing evidence that the variety is resistant to lethal yellowing.

**Table 1. Cultivated date palms in Florida (hyperlinked names lead to images)**

Common name	Scientific name	Native home
The true date palm	<a href="#">Phoenix dactylifera</a>	North Africa, Middle East
Canary Island date palm	<a href="#">Phoenix canariensis</a>	Canary Islands
Miniature date palm	<i>Phoenix roebelinii</i>	Southeast Asia?

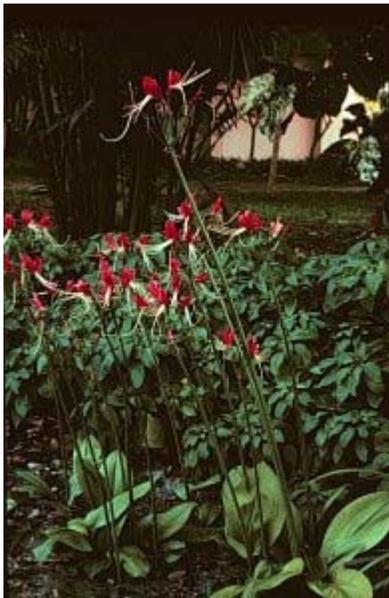
Senegal date palm	<a href="#"><i>Phoenix reclinata</i></a>	Tropical Africa
Cliff date palm	<i>Phoenix rupicola</i>	India
Silver date palm	<i>Phoenix sylvestris</i>	India

## EUCROSIA, A NEW BULBOUS CROP FOR FLORIDA

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For the past three years, *Eucrosia bicolor* var. *bicolor* (Amaryllidaceae), a tropical bulb native to Ecuador, has been evaluated for landscape performance at the Ft. Lauderdale REC, while its utility as a cutflower crop has been investigated by Dr. Mark Roh of the USDA and the author.



Flower stems are about 2 feet tall and bear 6-10 red flowers with long, curved yellow stamens. Each individual bulb remains in flower for about 2 weeks, but as large clumps are rapidly formed, total bloom period will extend upwards to a month. The bulbs generally get no larger than 1 and 3/4 inches in diameter, but are capable of flowering when they achieve a minimum weight of 25 grams (Roh and Meerow, 1992; Roh et al., 1992).

The attractive leaves of eucrosia are light green and elliptic in shape with short stems. Each bulb produces 2-3 leaves. A flowering size bulb produces 2-4 offsets every year, as well as several smaller bulbils. A bulbil with a minimum fresh weight of 5 grams will grow to flowering size in one season of growth (Roh and Meerow, 1992).

In the landscape, eucrosia is a spring flowering bulb. Inflorescences appear shortly before leaf emergence, usually in April. In the landscape, eucrosia is best situated in partial shade. Full sun beyond noon will bleach and possibly burn the leaves. The bulbs will grow in any well-drained

soil, and should receive periodic fertilization with a complete landscape blend.

In October or November, the leaves of eucrosia will begin to yellow, indicating the onset of dormancy. At this time, maintaining the bulbs dry will insure maximum flower initiation, though periodic irrigation during the winter months has not resulted in either suppression of flowering or loss of the dormant bulbs in ground beds at the Ft. Lauderdale REC.

Information on production and forcing procedures for eucrosia can be found in Roh, 1991.

### LITERATURE CITED

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