



UNIVERSITY OF
FLORIDA

EXTENSION

Institute of Food and Agricultural Sciences

PHOENIX PALMS FOR SOUTH FLORIDA.

prepared by Joe Garofalo*, Jody Haynes*, and Wagner Vendrame*

The *Phoenix* palms are among the most beautiful and stately palm species grown in South Florida. They are also among the slowest growing, which makes them expensive in landscape sizes.

The *Phoenix* species commonly seen in South Florida appear to tolerate our conditions well. It should be noted, however, that, due to the many disease, insect, and physiological problems to which the genus is susceptible when grown in a humid climate with Summer rain, some palm specialists feel that none of the *Phoenix* palms are well adapted to South Florida conditions, especially not the true date. In this connection it is worth noting that during the past few years, many true dates have been imported from fruit-producing areas in the southwestern US and planted in South Florida as ornamentals.

DESCRIPTION OF THE SPECIES.

All *Phoenix* palms are dioecious, having separate male and female plants. All have moderate nutrient requirements and are tolerant of dry conditions and poor soils (Mg deficiency is common, but easy to correct). Leaves are pinnately compound, with many induplicate leaflets. Fruits are edible only in *P. dactylifera* (very good if grown in a dry

climate) and *P. canariensis* (not very palatable), plus a couple of rare species not frequently seen in South Florida. The lower leaflets are modified into stiff spines. Because of these spines, Phoenix palms can be hazardous, especially for small children and anyone pruning the palm. The hazard is reduced for children when the palm has enough clear trunk so that contact with the spines can be avoided. The inflorescence always originates among the fronds. Lethal yellowing in dates causes leaf browning rather than yellowing.

P. canariensis. From the Canary Islands (off the northwestern coast of Africa), the Canary Island date is solitary and grows to 40', with a massive trunk to 3' in diameter. They are highly prized for their formal appearance, and are used as specimens. They are best suited to a Mediterranean climate (semi-arid with dry Summers) and do well in the southwestern US. They are hardy in most of Florida (zones 8B-11). Leaves are stiffly arching, sometimes twisted, dull dark green; 10-20' long, leaflets 1.5' long and 1" wide; the petiole 1' or less and spiny.

The diamond-shaped leaf-scar pattern on the trunk is very attractive. The lower leaves are often removed and the bases closely trimmed to form a "pineapple" shape just below the

crown. There is often a swollen mass of aerial roots at the base. The inflorescence is 3-4' long, orange, and densely branched; the flowers are yellow, the fruit 3/4" long and orange.

These plants need room, even when young. They are not tolerant of wet sites or over-watering, which encourages fungal diseases. When transplanting large specimens, it is necessary to support the heavy crown with 2x4s because it is subject to breaking. Extra care also must be taken in transporting to avoid excessive shaking and bouncing. Stressed plants are susceptible to palmetto weevils, which invade and quickly kill the growing point.

Hybrids with other dates are common in the trade; specimens with blue-green leaves are usually hybrids with *P. dactylifera*.

P. dactylifera. The true date slowly forms a cluster after years with a solitary trunk. It grows to 70', and is hardy in most of Florida (zones 8B-11). It is a native of north Africa and the Arabian peninsula, and is best suited to dry or Mediterranean climates.

The trunk is not as thick and the crown not as full as *P. canariensis*. The trunk is grey and develops a distinctive and attractive pattern after the leaf bases fall. As with *P. canariensis*, the lower leaves are often removed and the bases closely trimmed to form a "pineapple" shape just below the crown. Unpruned lower leaves are drooping, grey-green, to 20' long; leaflets 1-2' by 1" wide; petiole 4', with stiff spines. The inflorescence is 4' long, branched, and highly ornamental; flowers are white, the fruit yellow, orange, or red, to 1.5", and edible. Fruit production is sparse in Florida, and far inferior to fruit produced in drier climates. Most persons would consider it inedible.

True date is increasingly used in South Florida landscapes since large specimens have become available from former fruit groves in California and Arizona. Though no cultivars (cvs) of true date are well adapted to South Florida, choose cvs reported to be more tolerant of humidity and rain. The cvs 'Halaway', 'Khadrawy', and 'Kaktoom' are the best; 'Medjool' is intermediate; and 'Zahdi' and 'Deglet Noor' should be avoided.

The wide use of true date in South Florida is of questionable wisdom, since it is not adapted to our climate.

P. reclinata. The Senegal date is a clustering palm, to 30', with the outer trunks leaning outward, forming an attractive specimen if given enough space. It is seen both with and without suckers. It is native to eastern Africa and Madagascar, and can be grown in peninsular Florida (zones 9-11).

The trunks are slender and covered with fiber matting and old leaf stalks, but eventually become clean, with ringed leaf-scars. Leaves are dark green, to 15', leaflets 1.5' long by 1.75" wide, and the petiole is 4' and spiny. The leaflets radiate from the rachis at various angles. The inflorescence is 3' long, the flowers cream-colored, the fruit 1/2", reddish-brown.

This species hybridizes freely with other dates, and a fair amount of nursery plants produced in South Florida are hybrids. Females of this species also seed readily and can become weedy.

P. roebelenii. Pigmy date is probably the best *Phoenix* for South Florida conditions, and is hardy only in South Florida (zones 10A - 11). From SE Asia (Laos), it is the smallest commonly available *Phoenix* (to 10 ft), and is often produced in clusters and grown as

container plants in the landscape. Pigmy date has slender trunks with peg-like leaf bases, and masses of aerial roots at the base. Leaves are glossy green, lower leaves drooping, 3-5'. Leaflets are 8-15" long, ½" wide, the petiole 2-6" and spiny. Inflorescences are 1.5' long and cream-colored, the fruit ½" long and black.

P. rupicola. Cliff date, native of India and Bhutan, is hardy in zones 9-11 (peninsular Florida), and is used as a specimen tree. It grows to 25', and is much used because of its moderate size.

The trunks are swollen with fibrous matting below the crown. Leaves are softer than those of other dates, twisted and drooping, bright green, 10' long, with leaflets 1.5' long and thin. Petioles are 3' long and spiny. The inflorescence is 3' long, branched, and resembles the *P. dactylifera* inflorescence. The flowers are white, the fruit ¾", yellow, ripening purple-brown. Cliff date is generally trouble-free.

P. sylvestris. The wild date or toddy palm, native to India and Pakistan, grows to 40', and is hardy in most of Florida (zones 8B-11). It is a solitary palm, used as a specimen, and is usually trouble-free.

The trunk is thick, with diamond-shaped leaf scars, often with a skirt of aerial roots at the base, and persistent leaf bases above. The leaves are blue-green, up to 12' long, with leaflets 6"-1.5' long and 1" wide. The leaflets are arranged in groups of 2 or 3, often criss-crossing. The petiole is 3' and spiny. The inflorescence is 2-3' long; the flowers are white, followed by 1" fruit, which are orange-yellow, ripening to reddish- purple.

In India, the sap is collected from the cut inflorescences and either boiled down into sugar (jaggery), or fermented into an alcoholic beverage (toddy).

PROBLEMS.

Most *Phoenix* palms do well in South Florida. The most troubled species is *P. dactylifera*, which appears to suffer the most from high humidity and rainfall.

DISEASES. The following diseases have been reported on *Phoenix* palms in Florida (the first four are fatal): Ganoderma butt-rot, Phytophthora bud-rot, lethal yellowing (the leaves turn brown rather than yellow), Fusarium wilt, Graphiola false-smut, and Stigmia leafspot.

CULTURAL PROBLEMS. Mg and K deficiencies are common; K, Mn & B deficiencies are fatal if not treated.

INSECTS. The palmetto weevil (fatal), scales, palm aphid, and palm-leaf skeletonizer.

SOME BASIC CONSIDERATIONS.

If date palms are to grow well in South Florida, a few basic needs must be met. First, remember that most of the dates seen in South Florida (except *P. roebellenii* and *P. sylvestris*) are desert plants, originally from the Middle East, north Africa, and India. They don't grow naturally in areas that receive 65 inches of rain each year, most of it during the six warmest months, with high humidity and a high water-table.

Where they are native, dates get 20 to 40 inches of rain per year, which falls in the Winter, and Summers are hot and dry, with low humidity. Such a climate favors the palms over the disease-causing organisms.

Conversely, our climate favors disease-causing organisms, not desert palms. They do well in the arid southwestern US.

South Florida growers produce date palms locally, except for the true date, virtually all of which are grown in drier climates and shipped in. Our climate is a challenge for many of the date palms, but if certain measures are taken, they will survive here and grow well. Their contribution to our landscapes is unique, and no other palms can replace them.

CHOOSE THE SPECIES CAREFULLY.

The best dates for South Florida are *P. roebelenii* and *P. sylvestris*, while *P. dactylifera* presents the greatest challenge. If you wish to plant true date, choose the cvs. 'Halaway', 'Khadrawy', or 'Kaktoom'.

IMPROVE THE PLANTING SITE.

After choosing the best species or cvs, these recommendations should help you succeed with date palms:

1. Plant them high. Raise the bed, and be sure that no water stands around the roots or in the bottom of the hole. If there's water in the planting hole, it's not a suitable site for a date.
2. Plant them in sand, not muck, not marl. It *must drain well*.

ESTABLISHMENT.

3. Water date palms during an establishment period of a few months, then almost never again.
4. Maintain a cleanly-cultivated area around the palm. Don't plant anything around them, especially not turf, or anything else that needs to be watered.

MAINTENANCE.

5. Keep a very close eye on them. At the first sign of a disease or insect, diagnose and treat the problem. There are many problems for which no treatments are available, but treat anything you can, and do so promptly.
6. Be very attentive to the nutritional needs of your palm. South Florida soils are nutrient-poor and typically have a pH above 8.0. Use the "palm special" formulation, and apply 1.5 lbs/100 sq ft four times per year, during the warm months. And keep an eye out for deficiency symptoms, especially K, Mn and B. Refer to *Palm Nutrition Guide* by T.K. Broschat, available from any CES office and on the web at: <http://miami-dade.ifas.ufl.edu>
7. If you lose a date palm, it would be best not to put another one in the same spot. If you must put another one there, first remove the stump and as much soil as you can, and replace it with clean sand.

.....

ADDITIONAL RARE SPECIES.

The following *Phoenix* palms are occasionally offered for sale in South Florida:

P. acaulis, dwarf date palm.

Nepal, India. Stemless. Hardy in South Florida. Edible blue-black to purple fruit.

P. loureiri var. *humilis* (*P. humilis*). India, Bangladesh, Nepal. Solitary or clumping. Leaves twisted, bases persistent. Small purple to black fruit.

P. l. var. *loueiri* (*P. hanceana* var. *philippinense*, *P. humilis* var. *hanceana*), voiavoi palm. Along waterways in Malaysia, Thailand, Cambodia, Vietnam, the Philippines. Solitary, persistent leafbases. Fruit black. Thrives in humidity.

P. paludosa (*P. siamensis*), mangrove date palm. Clumping, forming dense clumps of short stems. Found in coastal, swampy areas. Excellent for poorly-drained sites exposed to saltspray. Fruit black.

P. pusilla (*P. farinifera*, *P. zeylanica*), Ceylon date palm, Inchu palm. Coastal southern India and Sri Lanka. Small to medium-sized, solitary or clumping. Fronds blue-green. Tolerates coastal areas and saltspray. The purple-black fruits are edible.

P. robusta, slender date palm. From India, rare. Trunk slender, leaf bases forming a loose spiral. Shiny green leaflets arranged in groups, fruit brown.

P. roebelenii 'Branched Form'. A rare form developed in cultivation, for zones 10B-11. The trunk branches many times. A high percentage of seedlings do not branch.

P. roebelenii var. *reasoneri*. Originates in Laos, southern China, and Thailand. A clustering form.

P. rupicola, 'Variegated Form'. Originally from India, rare. Has variegated leaves.

P. theophrasti, Cretan date. One of only two palm species endemic to Europe (the other is *Chamaerops humilis*, the Mediterranean fan palm). A rare palm from Crete and Greece, it has a spiky appearance. Clumps as it gets older. It is hardy throughout Florida.

.....

PHOENIX HYBRIDS.

The following *Phoenix* hybrids are commonly available in South Florida:

P. canariensis x *roebelenii*,
P. canariensis x *sylvestris*,
P. canariensis x *reclinata*,
P. reclinata x *roebelenii*,
P. reclinata x *sylvestris*

The following hybrids are known, but are not commonly available in South Florida:

P. dactylifera x *sylvestris*,
P. roebelenii var. *reasoneri* x *reclinata*,
P. roebelenii x *paludosa*.

.....

SELECTED REFERENCES.

1. Broschat, T.K., and A.W. Meerow. 1999. *Palm nutrition guide*. Coop. Ext. Ser. pub. SS-ORH-02, Univ. of Florida. 4 pp.
2. Ellison, D. and A. Ellison. 2001. *Betrock's cultivated palms of the world*. Betrock Information Systems, Hollywood, Florida. 257 pp.
3. Garofalo, J.F.. 1997. *Ganoderma butt rot of palms in South Florida*. *In Writing* fact-sheet No. 4, Broward Co. Coop. Ext. Ser.. 2 pp.
4. Garofalo, J.F.. 1999. *Field diagnosis of diseases in landscape palms*. *In Writing* fact-sheet No. 26, Miami-Dade Co. Coop. Ext. Ser.. 2 pp.
5. Garofalo, J.F., and J. Vedae. 2002. *Growing true date palms in South Florida*. *In Writing* fact-sheet No. 61, Miami-Dade Co. Ext. Ser. 2 pp.

6. Jones, D.L.. 1995. *Palms throughout the world*. Smithsonian Institution Press, Washington, D.C.. pp 285-290.
7. Meerow, A.W.. 1994. *Betrock's guide to landscape palms*. Betrock Information Systems, Hollywood, Florida. pp 67-72.

* There are additional *In Writing* fact-sheets on palms which may be of interest covering Manganese (#28), Potassium (#29), and Magnesium (#73) deficiencies; Phytophthora bud-rot (#19), Thielaviopsis bud-rot (#21). These are available on our website: <http://miami-dade.ifas.ufl.edu>

.....

.....

- * Joe Garofalo is Extension Agent, Commercial Ornaments, Miami-Dade Cooperative Extension Service, Homestead.
- * Jody Haynes is Extension Agent, Florida Yards and Neighborhoods, Miami-Dade Cooperative Extension Service, Homestead.
- * Wagner Vendrame is Assistant Professor, Environmental Horticulture, University of Florida - Tropical Research and Education Center, Homestead.

.....

PHOENIX PALMS FOR SOUTH FLORIDA

MIAMI-DADE COUNTY PROGRAMS ARE OFFERED TO ALL PERSONS REGARDLESS OF RACE, COLOR, RELIGION, NATIONAL ORIGIN, GENDER, AGE, DISABILITY, OR SEXUAL ORIENTATION. DISABLED INDIVIDUALS ARE REQUESTED TO NOTIFY PROGRAM AREA (305-248-3311) TWO WEEKS PRIOR TO PROGRAM IF AUXILIARY AIDES OR ASSISTANCE IS REQUIRED. DISABLED PARKING SPACE AND WHEELCHAIR RAMP AVAILABLE.



In writing

Publications for the horticulture professionals of Miami-Dade County.

Fact-sheet No. 78.

Prepared by Joe Garofalo, Extension Agent, Commercial Ornamentals.

Miami-Dade County Cooperative Extension Service

1.2003

jfg Phoenix palms fs 1.2003 f



Miami - Dade County / University of Florida
Cooperative Extension Service



EXTENSION