

GROWING *Phoenix dactylifera* IN PALM BEACH COUNTY

Submitted by Charlie Beck

Phoenix dactylifera, the Date Palm, has been cultivated for more than 5,000 years. Ancient records show this palm was grown by Babylonians, Assyrians, Phoenicians and Egyptians. Today it is widely cultivated for its fruit in the Middle East, Near East, North Africa, India, Pakistan, California and Arizona. The true origin of this palm is unknown. Feral populations exist but they are considered escapes from cultivated groves.

Dates are considered among the first domesticated fruit crops. They can be eaten fresh or dried. Many cultivars have been selected and are clonally reproduced by propagation of suckers. Palm hearts are edible. Seeds are used as cattle fodder or ground into a coffee substitute. Stems are tapped for a sweet sap which can be used to produce sugar or fermented into “the drink of life” as coined by ancient Egyptians. Along with *Cocos nucifera* (coconuts) and *Elaeis guineensis* (oil), *Phoenix dactylifera* is considered one of the most useful species of palms.

P. dactylifera thrives in arid climates, but it requires a constant supply of moisture about its roots. When observed in the desert, it only grows in an oasis situation with an underground water source. An old Arab proverb states, “Its feet shall be in a stream of water and its head in the furnace of heaven.” This palm tolerates high levels of heat, atmospheric aridity, and salinity. It also tolerates water logged soil, even those with high salinity. Humidity level must be low for quality fruit production. High humidity causes cracks in the immature date’s skin which then initiates premature rotting.

P. dactylifera is a tall palm which can attain 100’ in height. The leaves can be green or silver. The leaflets are induplicate forming an upright V in cross section. Old fronds are not self-cleaning. Long sharp spines arm the leaf bases. Leaf base scars are knobby and diamond shaped. This palm suckers at ground level and males can also branch higher along the stem. Being dioecious, a male and female are required for seed production. Fruit is variable in size and shape. Ripe fruit may be green, yellow, orange, red, purple, brown or black.

P. dactylifera is most closely related to *P. theophrasti* and *P. sylvestris*. *P. dactylifera* tends to have a more open crown than its closest relatives. Some other differences are listed below (source- A Monograph of Phoenix by Sasha Barrow 1998):

P. dactylifera:

Stems - sparsely clumping, 16-20” diameter x 100’ tall,
Fronds - 10-16’ long, obliquely vertical in orientation

P. theophrasti: (rare in Florida)

Stems - vigorously clumping, 20” diameter x 50’ tall
Fronds - 7-13’ long, obliquely vertical in orientation

P. sylvestris:

Stem - solitary, 12” diameter, 33-50’ tall
Fronds - 5-13’ long forming a dense hemispherical crown with more than 50 fronds

P. dactylifera are planted commercially all over Palm Beach County. It seems like every large condo or shopping center includes these palms into their landscape plan. Mature palms are offered for sale from date palm groves in California and Arizona. Date palm groves sell their palms when the grove goes out of production or when the palm grows too tall for economical harvesting. Either way, large beautiful palms are transported across the country at reasonable cost for large commercial installations. These palms were properly maintained throughout their life and they look great. Unfortunately the cost of these mature specimens are usually beyond the budget of the typical palm enthusiast.

California date production covers more than 6,500 acres of land. They grow four primary varieties which are ‘Deglet-Noor’, ‘Medjool’, ‘Barhi’, and ‘Zahidi’. Each variety produces fruit of different color, moisture content and taste. All varieties are clonally propagated so each palm variety should have a uniform appearance. A study

published in The Journal of Horticulture Science and Biotechnology, 2003, evaluated the genetic diversity of 23 samples of 'Medjool' date palms. They identified a wide range of genetic variation. Only three of the 23 samples were identical. Twenty of the other samples were unique genetically. The conclusion is that 'Medjool' dates grown in California are not identical. The reason I mention this is that we see a wide variation in appearance of *P. dactylifera* in South Florida. You would expect to see four *P. dactylifera* types corresponding with the four California varieties, but we see a much wider variation in the appearance of these palms in Florida. Keep in mind that virtually all *P. dactylifera* shipped from California are female plants. A minimal number of male plants, used for pollen production, are planted at date groves. So any seed collected from a *P. dactylifera* in Florida is certainly a hybrid with another species.

P. dactylifera is rarely planted by Florida palm enthusiasts. Container grown *P. dactylifera* are rarely offered for sale at nurseries. Maybe, nurserymen feel it's too common to attract palm enthusiast attention. Seeds are certainly available at any grocery store. Any package of dates contains, viable true *P. dactylifera* seeds. If you like this palm you might have to grow it from seed yourself. Keep in mind that any seed from a package of dates was pollinated by a male *P. dactylifera*, so the offspring will be a true species but not identical to the cloned variety. The reason I mention this is that this species shows much visible variety. Some palms have a feather duster appearance and some display a full rounded crown of fronds. Some palms have a higher frond count than others. Then there are the interspecies hybrids which are impossible to identify.

Consensus opinion in the early 1990's was that *P. dactylifera* was a desert palm which would only thrive in dry soil. There was a weekend radio gardening show broadcast from Miami years back. Every week the radio host said that these palms resented any irrigation. He advised to never plant impatiens around these date palms because the palms would certainly be harmed by the constant watering. I guess the radio host didn't really know what he was talking about. He didn't know that these palms show remarkable tolerance to water-logging. Our palm has been inundated for weeks at a time with no ill effect. *P. dactylifera* was also considered highly susceptible to Lethal Yellowing disease. If this is true, I don't see evidence of this. Many of the large commercial plantings have been disease free for many years, so I think this has been overstated.

We have a single specimen of *P. dactylifera* in our garden. It was planted 22 years ago. This palm was purchased from Joel Crippen, Horticulturist at the Mounts Garden. Of course in 1994, Joel wasn't yet employed by the Mounts Garden, but he was a commercial nurseryman. Back then, Joel was a regular attendee of our monthly Palm Beach Palm and Cycad Society meetings. Joel had a crop of *P. dactylifera* grown from a package of locally purchased 'Medjool' dates and I was lucky to buy one. I planted our specimen in an area without any supplemental irrigation. Natural rainfall was enough to establish this palm. Once its roots grew into the water table it was a happy palm. Twenty-two years later it hasn't contracted lethal yellowing either. I consider this palm to be a moderate grower. It is 10' tall and the stem measures 17" in diameter at waist level. I believe it would have grown taller if it received regular irrigation. The fronds are pure silver and the form is like an upright feather duster. It was unaffected by the 2004-2005 hurricanes. I have never noticed any minor nutritional deficiencies. A quality palm fertilizer is all that is required.

There are few additional considerations. If you want to train this palm to a single stem, you will need to continually remove suckers over a long period of time. If you have a male palm, suckers might form higher up the stem. If you don't want it to branch, you will have to trim those too. This is not a self-cleaning palm. Old dried fronds persist if you don't remove them. Unlike other *Phoenix sp.* with springy fronds which are hard to saw through, *P. dactylifera* has stiff fronds which are easy to remove. Once it grows beyond the reach of a pole saw, you might need a bucket truck to reach the fronds.

P. dactylifera is a beautiful palm that can enhance any garden. The upright silver fronds are quite striking and don't take up much space. If you grow one from seed, you will be able to appreciate it up close for many years before it reaches for the sky. Don't let the threat of Lethal Yellowing deter you from growing this gem.



Phoenix dactylifera at The Gardens Mall



Phoenix dactylifera stem at The Gardens Mall



Phoenix dactylifera (branching)
Courtesy of Palm and Cycad Society of Australia



Phoenix dactylifera at The Beck Garden



Phoenix dactylifera at The Beck Garden (root boss forming)



Phoenix dactylifera at The Beck Garden