

Growing Palms in the New Orleans Area

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Before the great 1962 freeze (11° F), New Orleans residents were able to grow a great many tropical plants and palms including the date palm (*Phoenix dactylifera*), the dwarf date palm (*Phoenix roebelenii*), queen palm (*Syagrus romanzoffiana* [*Arecastrum romanzoffianum*]), arenga palm (*Arenga engleri*) and others. Practically all date palms were killed—only about eight or nine survived. All of the dwarf date palms died and virtually no replanting occurred. *Syagrus romanzoffiana* were all killed but residents here continued to replant up until the severe freeze on Christmas Eve of 1983 (17° F) after which time very few people have replanted. *Arenga engleri* was only sparsely planted but the author has seen no new plantings.

However, there are a number of both pinnate and palmate palm species that are commonly grown here in this metropolis that withstood the infrequent freezes and survived. The more common ones include: our native *Sabal minor*, *S. palmetto*, *S. mexicana* (*S. texana*), *Washingtonia filifera*, *W. robusta* (approximately 75-85% of the *W. robusta* were freeze killed in 1983), *Trachycarpus fortunei*, *Chamaerops humilis*, *Livistona chinensis*, *Phoenix canariensis* and *Butia capitata*. Some of the less frequently seen palms which have survived include: *Rhapidophyllum hystrix*, *Brahea armata*, *Rhapis excelsa*, *Phoenix reclinata*, and *Chamaedorea microspadix*.

In the following paragraphs are cultural recommendations that I feel have proven successful here in New Orleans.

Transplanting and Planting

The best time of year to transplant or plant palms is during the spring and summer months (end of April through August). The soil is warm and this allows the plant time to make vigorous root growth (Donselman 1981, Doughty 1980, Evans 1981, Jordahn 1956, Midcap and Black 1976, Mowry 1957).

In the past it has been generally believed that once palm roots have been cut, the roots would die and new regenerative roots would replace the severed ones. Research in Florida by Donselman and Broschat (1984a), however, has shown that this myth is not true for all palms.

According to the researchers, cabbage palm (*Sabal palmetto*) must regenerate new roots after root decapitation. Conversely, queen palm (*Syagrus romanzoffiana*) will often regenerate new root tips if the roots are cut 2-3 feet from the trunk. As a result of the research it would be best to obtain as large of a root ball as possible when transplanting palms. An exception to this is cabbage palm (*Sabal palmetto*). Roots may be cut to within one foot of the trunk. However, root pruning six to eight weeks prior to transplanting is advised to allow time for new root regeneration near the trunk. At the time of transplanting, one third to one half of the older fronds should be removed to reduce water loss by transpiration. Also the ring of leaves immediately next to the bud should be removed to alleviate pressure on the bud. The remaining leaves should be gathered around the new emerging leaf and tied in place.

This practice not only reduces transpirational losses but also protects the bud. Rough handling of the palm or severe vibrations during transport can break the tender bud causing death several months later. It is important to replant the palm as soon as possible after digging and never allow the roots to dry (Donselman and Broschat 1984b).

Another antiquated horticultural practice is to fill the planting hole with peat moss, pinebark, manure, etc. This practice is no longer recommended for palms or any other woody trees and shrubs because by using these additives the immediate environment around the roots is altered and death may result (Donselman 1981; Donselman and Broschat 1984b; Whitcomb 1983, 1986). If an entire bed area is to be prepared (fifty square feet or larger) for raised bed purposes or to remove heavy clay soils, then a good bed mixture recommendation consists of $\frac{1}{3}$ sharp sand, $\frac{1}{3}$ finely ground pine bark mulch and $\frac{1}{3}$ good garden soil or potting soil (Doughty 1980).

One should dig a hole twice as wide and just deep enough to accommodate the root ball. The palm should then be placed into the hole but planted at the same depth as was growing previously. However, an exception to this is cabbage palm (*Sabal palmetto*). It may be planted deeper in the soil to help stabilize the tree. In the next step one should partially fill around the root ball with well prepared backfill originally taken from the hole and watered thoroughly so as to expel any air pockets (Donselman and Broschat 1984b; Evans 1981; Whitcomb 1983, 1986).

It is best to make a saucerlike depression over the root system to hold a greater quantity of rain or irrigation water so as to soak into the root system thoroughly. The saucerlike depression should then be covered with a mulch such as rice hulls, cypress mulch, pine bark or pine needles to help conserve moisture and to discourage weeds (Donselman 1981, Donselman and Broschat 1984b, Evans 1981).

The plant should be given a final soaking to mat-down the mulch and to firm-up the soil. It is also important to keep the soil evenly moist to a depth of 6-8 inches during the first several months by watering every 4-5 days when there is no rain.

Bracing the palm may be necessary for a tall plant, but the braces should never be nailed directly into the trunk. Palms to my knowledge do not have the ability to heal wounds, therefore nail holes or other injuries invite disease pathogens. An insulated collar made of wood or metal can be used to support the trunk or rope can secure the plant in place (Donselman and Broschat 1984b). The supports may be removed after eight months.

Fertilization

For vigorous healthy palms fertilization is recommended. In the past, organic fertilizers such as composted manures, tankage or sewage sludge have been recommended and may still be used but the cost may exceed chemical fertilization. From 10 to 25 lbs. may be needed for proper fertilization of large palms (Mowry 1957, Knapp 1961).

Chemical or inorganic fertilization is easier and less expensive. It is more efficient because it reacts faster and becomes available to plants more quickly. Granular fertilizers with nitrogen, phosphorous and potassium percentages such as 15-5-10, 16-4-8 or 12-4-8 may be used at a rate of $\frac{1}{2}$ to $\frac{3}{4}$ lb. per 100 square feet of root spread. Fertilizer application should be made in mid-April and again in mid-June. The method of application for granular fertilizers should consist of broadcasting the fertilizer from the base of the trunk outward to several feet beyond the margins of the leaf canopy. One should irrigate thoroughly after fertilization so as to reduce fertilizer burn of turfgrass or palms (Donselman and Broschat 1984b, Doughty 1980).

In New Orleans, injections of liquid fer-

tilizer 6–10 inches into the soil is also recommended. This practice not only provides fertilizer to the palm but more importantly aids in soil aeration which is essential to proper uptake of water and minerals by roots. Rates are given on soluble or suspended fertilizer packages or one may have a professional arborist perform the job.

Tree “spike” fertilizers may be used but are expensive and tend to concentrate the fertilizer in relatively small areas of the root zone. However, research done by Donselman and Broschat (1984b) indicated that broadcast fertilization appeared to be the best method.

Pruning

Pruning consists of actually grooming the plant, which involves removing the leaves or inflorescences as they become senescent and unsightly. One should definitely not decapitate a palm below the crown or below the leaves in an attempt to reduce the height of the plant. Doing so will kill a palm.

Sometimes freezing weather will impart injury to all the leaves and possibly the bud. One should not hurriedly remove the plant. Some palms may take up to two growing seasons to regenerate new growth (Doughty 1980). One should look for new growth in the center of the crown. If this growth is not apparent by August of the following year, then removal would be advised. However, if new regenerative growth is observed, one should then remove all the necrotic leaves, fertilize and irrigate as needed.

Propagation

The majority of palm species are propagated by seed (Koebernik 1966, Basu and Mukherjee 1972, Odetola 1987). However, some palms may be propagated by separation of offshoots from the main trunk. An example of this is *Phoenix dactylifera*. A few other palms may be propagated by division of root-clumps where multi-trunked

species exist. An example of this is *Chamaerops humilis*.

Propagation by seed is probably the easiest way to increase palm numbers. The following is a step-by-step procedure for propagation of palm seeds.

- (1) Palm seeds should be planted as soon as they are ripe (Poole and Conover 1974, Read 1962). Seeds of some species are relatively short-lived and some others begin to lose their viability in two to three weeks or longer.
- (2) The seeds should be soaked in water and the fleshy seed coat removed to accelerate germination (Schmidt and Rauch 1982, Donselman and Broschat 1984b, Nagao et al. 1980).
- (3) To enhance germination, thick, hard seed coats can be scarified or scraped (Doughty et al. 1986, Nagao et al. 1980). Scarification allows water and gases to pass through the seed coat thus hastening germination.
- (4) The seeds should be planted in a sterilized soil medium (Doughty 1980, Read 1962). Many soil mixes are commercially available including the soil-less mixes, or one may plant seeds in a mixture containing one half peat moss and one half sand or any combination of peat moss, sand, perlite or vermiculite. If one has but a few seeds, they may be planted in individual containers, but if a quantity of seeds are to be planted, the use of flats or entire planting beds, employing sterilized medium, would be recommended. Another good recommendation would be to plant the seeds as deeply as the thickness of one seed.
- (5) Freshly planted seed should be provided with bright light, high humidity, moist soil conditions and a temperature between 80° and 95° F. The use of bottom heat is also recommended (Poole and Conover 1974, Hull 1976, Read 1962, Nagao et al. 1980).
- (6) The germination time of palm seeds

varies with the species. *Trachycarpus* (windmill palms), *Washingtonia*, *Phoenix* (date palms) and *Chrysalidocarpus* (areca palms) will germinate in about 4–8 weeks, whereas palms such as *Chamaedorea* and *Butia* may take from 3–7 months (Koebernik 1966, Basu and Mukherjee 1972).

- (7) When the spear leaf (first leaf) is 2–4 inches long, the palm seedlings should be immediately transferred into individual containers. The plants may be planted in the landscape from April through August when 2–3 feet tall, but it is best to provide protection from direct sun and high winds until the plants are well established (Broschat and Donselman 1984, Doughty 1980).

Questions often arise as to how to plant a coconut. Although coconuts do not grow outdoors in New Orleans, it is customary for one of the Mardi Gras Krewe's to give coconuts away along the parade route on Mardi Gras day. People consider this to be a valuable souvenir and use it in the home as decoration. Months after Mardi Gras day, I receive phone inquiries from the public asking what to do with the germinating coconut. My reply is that the coconut palm is not recommended for outdoor culture in the New Orleans area. However, many people find it challenging to plant and grow one. For best results select a large container 8–12 inches in diameter. Fill it with a good potting soil or one of the soilless mixes. Place the coconut on its side and bury it to only about one half its thickness leaving the upper portion fully exposed. Leave it outdoors during the spring, summer and fall, providing ample water and fertilizer but bring it indoors during the winter.

Plant Pests

On occasion palms fall under attack from insects and diseases here in New Orleans. Common insect problems include scale, caterpillars, mealybugs, and other leaf eat-

ing beetles. Termites can also attack the trunk of older palms.

To control scale and mealybugs, the application of Orthene or a summer oil spray is recommended in June or whenever the insect is evident. Malathion can also control these pests. To control caterpillars and other leaf-eating beetles, Sevin and Orthene are effective. For caterpillars alone a biological control such as Dipel, Biological Worm Control or Thuricide is suggested. To control termites Dursban should be applied to the trunk and ground. Whatever the insect problem may be, the problem should be eradicated before it becomes a severe infestation.

A few leaf spot diseases may attack palms in this area and can be controlled by spraying with Benlate, Daconil 2787 or Zineb as soon as the leaf spot is detected. However, diseases usually are not severe in the New Orleans area other than possibly root rots.

Although the total number of palm species that can be grown in New Orleans is relatively small, the few that can be certainly provide a semi-tropical atmosphere to this area of the country. Even though New Orleans is considered temperate, palms enhance and beautify areas of the city to the extent that some visitors actually feel as if they have visited a semi-tropical paradise.

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Note: Mention of a commercial product or pesticide trade name is done with the understanding that no discrimination is intended and no endorsement is given by the Louisiana Cooperative Extension Service.

LETTERS (cont. from p. 95)

The situations at El Valle and El Cope were remarkably similar. In both cases, Panamanians reported that an American who has come several times in the last year or two arrived in November and hired collectors to go out into the forest and collect seeds and plants in large quantities of certain palms, *Chamaedorea* among them, and all highly ornamental. The American would return a day or two later to gather the seeds and plants. In both cases, it seems to be wholesale destruction of these palms in their habitat.

Not only have these palms been pretty well wiped out in these two areas but the local people there have been "primed" by this business and are looking for other native plants that they can now sell.

I don't know what, if anything, can be done about this. The rationale that it's better to collect this material than to see it destroyed when the forest is cut and burned over by natives does not necessarily stand up. Much of the material will die in transport or later under cultivation due to exacting growth requirements not recognized by the grower. These are not commercially viable species that can be cultured easily under varying growth regimes. This is to say nothing of the ethics involved with wholesale stripping of these plants from the forest. I suppose it's simply a commentary on the sad state of the human species and the world's resources.

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