



Reading Palms (*fronds*): Fertilizing and Nutrient Deficiencies.

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Palms are prone to shorter lives if one is not aware of some of these nutrient deficiencies and how to read the subtle symptoms peculiar for each nutrient and for each palm species. Because of our sandy “soils” mixed with backfill capstone, many plants need nutrient supplements to avoid premature decline or death. Palms commonly exhibit potassium, manganese and magnesium deficiencies. Once you know what to look for on which palm species, you can take action and add the missing nutrient(s).

Canary Island date and Senegal palms are commonly seen with the lower fronds exhibiting nice dark green midribs with bright yellow margins. This is not a variegated cultivar, rather a symptom of **magnesium (Mg) deficiency**. Use magnesium sulfate (Epsom salts) or kieserite **before** the symptoms show, as you cannot green up the affected fronds. Apply two to four pounds per palm, four times per year.



If a palm (queen, royal, areca, coconut, spindle, true date palms, other Phoenix spp. and Everglades palms, etc.) is deficient in **potassium (K)**, it may die. Symptoms occur on the lower fronds and start as a yellow flecking or orange spots. If the deficiency continues, brown splotches will appear and the lower fronds become withered and frizzled looking. With the date palm group (Phoenix spp.) the leaflet tips become an orange-brown with a dull orange or tan appearance fading into the midrib. Potassium is translocated from older leaves to the newer leaves. Over-pruning palms (removing fronds before they have lost their green) can push them into starvation. Dr. Tim Broschat (University of Florida, Ft. Lauderdale researcher) recommends that the treatment should be a broadcast soil application of sulfur-coated potassium sulfate at three to eight pounds per palm, four times per year plus one-third as much controlled release magnesium to prevent a K-Mg imbalance. It is also a good idea to eliminate the turf that is growing under the canopy and go with one to two inches of mulch. The turf is the first hog at the feeding trough, so when you fertilize your palms you will get better results if the turf isn't there to grab it first.



To confuse matters more, the true date palms, such as the ‘Medjool’ are prone to graphiola false smut disease that



speeds the decline of the lower fronds. A fungicide program may be warranted, with biweekly fungicide applications from early November through late March (see, <http://collier.ifas.ufl.edu/Horticulture/GraphiolaFalseSmut.htm>).

Manganese deficiency is often observed on queen and royal palms and sometimes, pygmy, date and Canary Island date palms. The give-away symptom is called “frizzle-top” . This refers to the **new growth** that emerges stunted and chlorotic-gray and with brown streaks. The remedy for this is manganese sulfate at 16 to 24 ounces per palm, four times per year.

Routine Fertilizer Program: To get maximum efficiency out of the fertilizer, palms should be fertilized by broadcasting the fertilizer uniformly, following the outline of the palm canopy. Banding fertilizer so that trails or piles are visible is inefficient and could lead to root burn. Think of it as applying hot sauce on your taco, one doesn't dump the sauce in one spot, it needs to be spread out. Dr. Broschat recommends that the fertilizer should contain 100%

of its N, K, and Mg in slow release form (unfortunately, this cannot easily be determined from the label, thanks to Florida's antiquated fertilizer labeling laws). The micronutrients (at least the Mn and Fe) should be in water soluble form such as sulfates. Oxides (including sucates) are completely ineffective in our alkaline soils. Broschat recommends a N:P:K:Mg ratio of 2:1:3:1 or 4:1:6:2 which translate roughly into an analyses of 8-4-12-(4Mg) or 8-2-12-(4Mg). The exact analysis can vary slightly, but should have roughly those elemental ratios. Currently, there are only two companies blending products that meet these recommendations (Nurserymen's Sure-Gro and Howard's).



Broschat recommends a maximum application rate of 15 pounds of fertilizer (not N) per 1000 sq. ft. of canopy area every 3 months.

For more details, see Dr. Tim Broschat's (University of Florida), Palm Nutrition Guide: <http://edis.ifas.ufl.edu/ep119>

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