

## Hurricane-Damaged Palms in the Landscape: Care after the Storm

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The growing point of a palm is the apical meristem, often referred to as the palm bud or palm heart. It is located at the top of the trunk, surrounded by the leaf bases. All new leaves come from this bud. If the bud is severely damaged, new leaves fail to develop, and the palm eventually dies.

Unless the palm trunk is broken or it is otherwise obvious that the bud has been damaged, there is no way to predict which palms will survive wind damage and which ones will not, as the bud is not visible or accessible for inspection. However, it is apparent after the past few years of hurricanes in Florida that certain palm species are more tolerant of high winds than others. The native sabal palm (*Sabal palmetto*) and royal palm (*Roystonea regia*) both survived high winds, but in very different ways. While sabal palms lost very few leaves, royal palms (which are palms with a crownshaft) shed most of their leaves.

The following are some suggestions on care for palms after a hurricane. **The main point to note (and inform clientele) is that it will be at least six months (and probably longer) before it is obvious that a palm will recover.** Recovery will consist of new leaves emerging from the bud. In some cases, the new leaves will not look normal – they may be abnormally shaped and/or shorter than normal; the leaflets or leaf segments may have necrotic edges. However, over time, each successive new leaf should appear a little more normal until, eventually, normal leaves appear. Again, this takes time, so patience is required. Recovery from a storm is not a quick process, for people or plants. It is recommended to monitor damaged palms carefully during the next 1 to 2 years.

It is also important to understand that because of the storm, clients are examining their landscape more closely than they probably did before the storm. Thus, they may not realize the palms had problems (such as nutrient deficiencies) *prior to* the storm. The challenge is to determine which problems existed before the storm (and address them accordingly) as opposed to the problems that develop due to the storm.

- **Broken Palms**

If the trunk of a single-stemmed palm is broken, it should be cut at the base and removed. It will not recover. A clustering palm has a lateral meristem at the soil line. Thus, new stems will emerge, and the palm should recover in most cases. Cut the broken stems as close to the soil line as possible.

- **Uprooted Palms**

Palms should be stood upright as soon as possible and replanted at the same depth at which they were planted previously. Bracing will be necessary and should be kept in place for at least six months. If the broken leaves are still green, leave them attached as they will provide

photosynthetic capability for the palm as it recovers. Yes, it looks ugly, but it may help with palm recovery. These “replanted” palms should be treated as if they were being installed for the first time. **Thus, the most important component of a management program in the first six months is water management.** The root zone should be irrigated as necessary during the re-establishment period. Refer to the EDIS publication “Transplanting Palms” for more information at <http://edis.ifas.ufl.edu/EP001>.

- **Leaf Removal**

If the broken leaves are still green, it is recommended to leave them attached, as they will provide photosynthetic capability for the palm as it recovers. However, we realize people want to “clean-up” after a storm. If only a few leaves are broken, then removing these leaves (and only these leaves) may be acceptable, but only for aesthetic reasons.

- **Fertilization**

For palms that are not uprooted, maintain the same fertilization program that was in place prior to the storm. For replanted palms, no extra fertilizer should be applied to the root zone until the palm exhibits new growth (i.e., new leaves). Again, this will take a month or longer in many cases. There is no known benefit to applying a micronutrient spray to the canopy, and it may be harmful if applied incorrectly. EDIS publications on nutrient management for palms are available. See [http://flrec.ifas.ufl.edu/Hort/Palms/palmproduction/palm\\_nutrition\\_guide.htm](http://flrec.ifas.ufl.edu/Hort/Palms/palmproduction/palm_nutrition_guide.htm) for a list of these publications.

- **Fungicides**

There is no research to document the benefits of using fungicides after a hurricane. The theory behind the common recommendation is as follows. If the apical meristem (bud) has been damaged, then it is possible that fungal pathogens (primarily *Phytophthora* or *Thielaviopsis*) or secondary bacterial pathogens may establish in the bud and cause a bud rot. The only fungicides that may have an effect on all three groups of pathogens are the copper-based fungicides. These fungicides should be applied as a drench to the bud, not to the soil, as the goal is to protect the bud as soon as possible after the damage has occurred.

All fungicides must be used in accordance with the label. Do **not** mix fungicides together or with a nutrient spray unless the label indicates it is safe to do so. There is no research to indicate copper-based fungicides will help the wind-damaged palm, but the fungicides probably will not hurt the palm if used according to the label. The normal recommendation is not to use copper-based fungicides more than twice. They are very stable products, meaning they are not prone to degradation in the environment.

Based on observations from the past two hurricane seasons, it is obvious that many palms, especially native palm species, survive windstorms without any fungicide applications. Thus, it may be best to reserve fungicide use for those palms that are highly valuable or severely damaged.

- **Yellow New Leaves Immediately After the Storm**

Although this phenomenon was observed for other palms, it was most obvious for royal palms. The youngest leaf of a palm is the spear leaf, which is actually an unopened leaf. It normally will be upright (ramrod straight) in the center of the canopy. Under normal circumstances, it will slowly open from the tip to the leaf base. As each portion of the leaf expands, it becomes the normal color associated with mature leaves. In a windstorm, it is not uncommon for this spear leaf to be forced open prematurely by the winds. If this occurs, the leaf appears chlorotic (pale green or yellow) because it was not fully developed. As stated previously, as long as the bud (from which all subsequent new leaves will emerge) is not damaged, the palm will produce a new canopy to replace the one that was lost in the hurricane. It will take at least a year (and probably longer) for the entire canopy to be replaced.

- **More Palm Information**

Go to <http://flrec.ifas.ufl.edu/Hort/Palms/palmproduction/palmproduction.htm>. Many topics are covered at this site.