Caring for Freeze-Damaged Palms

The flash of winter weather we experienced this year severely damaged many of our plants. It may have looked like your palm trees were the lucky ones and escaped the cold without too much damage, only to notice a decline in appearance several days later. Delayed onset of outward signs of cold damage is typical for palm trees. If you're now wondering if your palm will be ok, it's essential first to understand the different types of injury palms can sustain.

above: chilling injury

Palms are monocots or grass-like flowering plants. Their trunks have a central growing point, the apical meristem, also known as a bud or heart, from which all new fronds emerge. If this central growing point gets damaged, the palm will likely die. Three types of damage can occur to palms, and it is essential to figure out which kind of injury has happened before caring for freeze-injured palms.

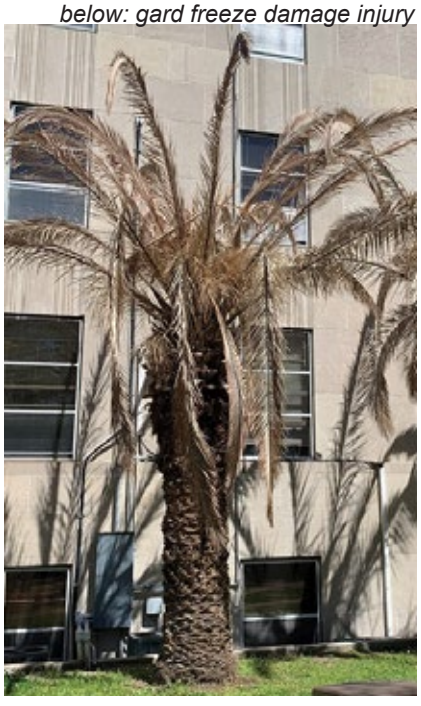
The **first type** of damage is what's called *chilling injury*. A chilling injury occurs when temperatures above freezing result in browning leaves of the palm fronds (necrosis). This damage doesn't require below-freezing temperatures; it can result in 40° to 45° temperatures. Palms will recover fully from this type of damage.

above: frost injury

The **second type** of injury is *frost injury*. Frost (radiational freeze) damage is like chilling injury in its symptoms. Air temperatures may be several degrees warmer, but the leaf temperatures drop below 32°F, causing heat loss to the leaf surface. Frost damage may appear spotty in distribution within a single palm crown. Affected palms could take up to a year to fully recover, but patience and care are essential.

The **third type** of injury occurs during a *hard (adjective) freeze*. This type of freeze puts the plant surface temperatures drop below 32°F. Below freezing temperatures for extended periods can kill the base of the spear leaf, the newest leaf in the palm canopy, in the apical meristem. Sadly, several weeks after the freeze, the spear leaf can often be pulled out of the palm with little effort, and its base will be mushy and have an offensive odor. When this occurs, unfortunately, dead tissue is subsequently colonized by decomposing fungi and bacteria that were naturally present before the freeze, resulting in death.

below: gard freeze damage injury



The key to caring for palms is being patient and letting nature take its course. Do not rush into removing the affected brown fronds immediately after the damage becomes visible. If a portion of a frond is still green, leave it on the plant for as long as possible. The green portion will aid in photosynthesis necessary to produce sugars to support growth. It may look unsightly, but it will benefit the palm during the recovering phase.
Completely brown fronds can be removed or left to fall independently, and new fronds will replace them over time. Most palms won't show any new growth for months after the damage.

Palms usually start their growing season long after other shrubs and trees begin their spring growth flushes. The best protection for palms' health requires long-term fertilization and care. Continue to water palms adequately to avoid any drought stress.

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