



Pacific Northwest Palm & Exotic Plant Society

10310 Hollybank Drive, Richmond BC V7E 4S5

www.hardypalm.com

Tender Plant (Palm) Winter Protection

General factors to consider:

- Winter damage to plants is caused by plant cells freezing, expanding and rupturing, or by subsequent fungus infections of the damaged tissues.
- Cold hardy plants typically have some version of biological antifreeze in the cells, and/or very thick cell walls that resist rupture.
- Winter dormancy is critical, so cells should be somewhat dehydrated and not undergoing metabolism.

*Since plants have very slow metabolic rates during the winter they generate little internal heat. Hence, wrapping/insulating prevents dehydration damage but does little to raise the internal temperature.

Protection techniques (palms or other tender plants such as tree ferns)*:

- **Keep plant on the dry side** (planted in raised beds with fast draining soil) in winter to reduce turgor pressure so cell expansion does not cause rupture.
- **Use warming (and/or insulating) techniques:**
 - **Use fabric or other covers** to reduce radiative cooling. White is best. Black plastic should not be used, particularly in direct contact with foliage.
 - **Plant under an overhang, or use temporary roofs** to reduce radiative cooling to control fungus issues caused by overhead water.
 - **Wrap trunk, particularly the growing point, with insulation** and supplementary heating cables.
 - **Protect fronds with Remay cloth**, Lee Valley bag, or similar breathable cloth.
- Protection should be removed as early as feasible, typically about April 1st in the Pacific Northwest.

***NOTE:** Our experience is that the common **Windmill Palm** (*Trachycarpus fortunei*), once a trunk has developed, **does NOT require winter protection in the coastal Pacific Northwest** (to about Langley) unless the temperature drops below about -15C. Misguided protection efforts by wrapping fronds and trunk actually promote fungus attack, yellow the leaves, and can seriously weaken the plant.

Plant Protection type 1: Not heated (gives a few extra degrees, good enough in many cases).

- Cover plant with Re-may cloth, Lee Valley plant bags, overhead cover on stilts (coroplast or similar) for rain/radiation cooling protection
- On trunk, use fiberglass insulation with plastic bags.



Plant Protection type 2: Heated (major effort but more reliable):

Wrap trunk and growth point pipe heater cable (2W/ft) with 3C thermostat (preferred), or non-thermostat incandescent Christmas rope lights (also 2W/ft) plugged in only on the coldest days to avoid scorching. Cover trunk with pool bubble wrap or other waterproofed insulation. Photos below give the general idea on a tender tree fern, using fiberglass insulation and plastic bags for waterproofing. Note that fronds are removed for tree ferns since they are tender but are hardier and remain intact for palms, requiring interlacing of heater cables and insulation.

