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Introduction to Cold-Hardy Tropicals for Virginia Landscapes

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Any Virginian who has ever been smitten by palm trees and tropical landscapes while on vacation can build a similar oasis in their own backyard. A number of tropical plants, including palms, are cold-hardy and worthwhile perennial additions to the home landscape, providing texture, whimsy and even evergreen winter interest.

Palms for Virginia Landscapes

The Commonwealth of Virginia spans several USDA hardiness zones, from Zone 5 in the coldest mountain areas to Zone 8 in the warmest coastal regions (see link to map in Resources, below). Yet, within this broad range of annual average minimum temperatures, certain palms may be grown successfully.

There are thousands of species within the palm family, and three of these are known for their outstanding cold hardiness. Each of these palms is commonly reported to survive extremely cold temperatures – especially in situations where the palm has become fully established in its location. The Needle Palm (*Rhapidophyllum hystrix*) is the most cold-hardy palm in the world, reported to withstand temperatures well below zero.

The needle palm (Rhapidophyllum hystrix) is the toughest cold-hardy palm known on Earth. It forms a large evergreen shrub over time. This specimen is growing near Roanoke in Zone 6b/7a. (Photo by Robert Craddock)

The Chinese windmill palm (*Trachycarpus fortunei*), a trunking palm, and the dwarf palmetto (*Sabal minor*) are both hardy to the lower single digits. They may suffer some leaf burn or even defoliation, but tend to recover quickly come spring.

The windmill palm (Trachycarpus fortunei) is the hardiest of the palm species that form trunks (many palms form shrubby clumps). Robert Craddock grows this nice grove near Roanoke, Va. (Zone 6b/7a). (Photo by Robert Craddock)

This dwarf palmetto (Sabal minor) provides blue-gray evergreen leaves for winter interest in this perennial garden. Companion plants include 'Knockout' roses to the left and right, Sedum 'Frosty Morn' behind and Monarda and Shasta daisy to the right. (Photo by Susanne Zilberfarb)

Virginia offers surprisingly good growing conditions for these palms, in spite of the cold winters. In fact, fossil evidence indicates that parts of Virginia were once included in the Dwarf Palmetto's native range. The Chinese windmill palm is native to a region of China which has soil types and climate conditions that are similar to Virginia. Chinese windmill palms with trunks from 10 to 24 feet can be found in Sterling, Roanoke and other locations in Virginia.

Given a perfect microclimate, several other palm species may be considered, including Sabal Brazoria, Sabal Louisiana or Sabal Birmingham types); Livistona chinensis (Chinese fan palm); Butia capitata (Jelly or Pindo palm); and Chamaerops humilis (Mediterranean or European fan palm). With cold-hardiness ratings in the teens, they are not as reliably hardy as the *Rhapidophyllum*, *Trachycarpus* or *Sabal minor*, but may be worth experimentation for their contributions of color, texture and form.

Care and Culture of Palms

Careful selection of the planting location will increase your success with young palms as well as other cold-hardy tropicals. Choose a site with good drainage which also provides some protection against winter's drying winds. A position in full sun is not absolutely necessary for all palms. Check the plant's label and resource materials for light requirements.

When selecting palms, choose a cold hardy container-grown plant over a field-dug specimen, as the root system may suffer less shock after transplanting. Purchase palms early in the season and plant as soon as conditions allow, generally from late March through early July. Sowing seed from a cold hardy source or planting smaller seedlings will increase the chances of success. Be sure a good cover of mulch is around the plant to mediate soil temperatures and preserve moisture.

Palms appreciate soils that are rich in manganese and magnesium, and a soil test will allow the gardener to determine if additional fertilizer is needed. Contact your local Extension office for a soil test kit and fertilizer recommendations. Most palms are not fast growers, and the grower's goal is to provide conditions for good, steady growth throughout the growing season, allowing the plant foliage to harden off in the fall. Fertilizing should be done early with a well-balanced and palm-specific product if available and recommended, and no additional fertilizer should be applied after July 4, to avoid excessive growth that may be unable to harden off sufficiently for winter.

In clay soils, the addition of organic matter is often recommended. However, the gardener should be careful not to create a clay-edged "planting pocket" of enriched soil. This is because the plant roots may tend to stay only within this pocket and not extend beyond the pocket.

Monitoring Palm Health

Palm fronds, like this Chinese windmill palm (*Trachycarpus fortunei*), emerge from a single, central growing point, or bud, within each trunk. The health of the bud is critical to the health of the palm. Diseases of the bud can remain hidden within the trunk, damaging or destroying the bud even as the rest of the plant appears healthy. Bud rots can kill a single-trunked palm or destroy the form of a clumping palm.

The newest frond is referred to as a "spear," and it is an important indicator of the health of the bud and the overall health of the palm. When selecting palms for purchase, inspect the spear. Spears that are off-color or fail to emerge, even in winter, are a sign of a problem. (Many palms will continue growing during winter months, albeit at a slower rate than in summer.)

Give a gentle tug to the spear if it shows signs of stress. If the spear detaches, a condition known as a "spear pull," take action. Spear pulls on newly planted specimens sometimes occur due to transplant shock. Spear pulls also may indicate bud rot. Examine the base of the pulled spear. If it is brown and slimy, that is an indication of rot.

If you see evidence of rot, tug on and remove any of the surrounding fronds which yield. This will remove diseased tissue and open up the bud to improved air flow, which makes conditions for disease less favorable. Keep the bud area dry as the plant recovers.

In addition to these cultural measures, fungicidal treatments are recommended immediately after a spear pull, regardless of the cause. Contact your local Extension office for recommendations on products labeled for Virginia.

Planting pockets also create the risk of drowning a plant because puddling can occur at the bottom of the pocket, where water takes longer to drain into the clay. Gardeners should focus on enriching and digging out a wide area within the bed, paying attention to sloping the hole or building up the bed, if possible, to "create" drainage in the root zone.

The effort spent building a strong root system is a wise investment, because it can increase survival rates. As incredible as it may seem, palms are evergreen. During the winter, constant exposure to drying winds can cause damage to the fronds when the roots are unable to take up water from frozen soils or dry "planting pockets." A location that affords some protection from wind will reduce moisture loss from leaves and help plants survive with little or no damage.

If a winter is particularly dry and the soil is not completely frozen, gardeners should water during this time to reduce windburn. Winter watering should be directed at the root zone only. Keeping the crown dry will protect the critical growth point of the plant. Additionally, preventive applications of a copper-based fungicide can protect against crown rot. Contact your local Extension office for recommendations on products labeled for Virginia.

In the summer, water palms as needed. As these plants become established in your landscape, you will find them to be among the more drought-resistant plants in the garden. A general rule of thumb is that if your lawn needs water, then your palms probably do, too.

Palms require very little pruning to maintain their shape. Older fronds may be pruned when more than 50 percent of the leaf has turned brown.

Bananas

The Japanese hardy banana (*Musa basjoo*) is reportedly hardy to Zone 4b with protection, springing to life each spring from tough corms that multiply readily when a good planting location is selected. These bananas can reach heights of seven to 14 feet – sometimes higher – in a single season, given adequate food, water and sun. While this type of banana does not produce edible bananas, it does produce an undeniably tropical feel in the landscape with its tall form and broadleaved texture.

Many varieties of banana are available to the home gardener in Virginia, and some claim hardiness to Zone 7, but many more are tender or marginal. A gardener seeking a dramatic tropical effect within a single season's growth would do well to include bananas, with a careful eye on the plant tag for hardiness ratings, and mulch them heavily over the winter.

The deep green foliage of the needle palm (Rhapidophyllum hystrix) contrasts nicely with the tall hardy green banana (Musa basjoo) in summer. In the winter, the needle palm remains evergreen, while the hardy banana dies back to the ground. This combination is grown by John and Priscilla Saia in Zone 7 in Loudoun County, Va. (Photo by Joe Seamone)

For bananas, which are heavy feeders, a good starter fertilizer followed by regular applications of foliar or quick-release fertilizer and plenty of water are essential. Although bananas require plenty of water to sustain their growth and wide leaves, a site with adequate drainage should be chosen to reduce the risk of rot. Healthy, well-fed bananas will reward their owners with plenty of "pups" at the base of the plant – enough to divide and share.

Frost will take down bananas quickly, since the plant is virtually 90 percent water. Many growers leave the frosted mass of leaves and pseudo stem as added protection for the corms over winter. In the spring, this mass may be removed and composted, and fresh mulch applied.

Hardy Eucalyptus

The hardy eucalyptus is another "surprise" in Virginia. Generally hardy to Zone 6b or so, the species of *Eucalyptus perriniana, E. neglecta*, and a few others have proven to be hardy in Virginia with correct siting and starting out with small, well rooted plants. Once established, they can reach heights of over 20 feet with beautiful multicolored peeling bark. Six to eight feet of growth is not uncommon in one season. There is a specimen of *E. neglecta* in Sterling, Va., that has been in the ground since 1994 and is now multi-trunked and over

20 feet tall. They thrive in clay soils in full sun with some winter wind protection (like a house or high fence). If given sun and low to moderate watering, hardy Eucalyptus will thrive for years with little fertilizer or care.

Eucalyptus (Eucalyptus neglecta) can reach heights of 18 feet or more in Virginia. Its textured bark and unusual leaf color and form make it a standout as a small tree. This specimen is in Sterling, Va. (Zone 7). Pictured are Joe Seamone (left) and Mark Coopman. (Photo by Kathy Shupe)

Yucca and *Tetrapanax papyriferus* 'Steroidal Giant'

The hardy yucca is another tropical looking yet hardy plant for Virginia. *Yucca recurvifolia* will develop a nice trunk quickly and sometimes a multi-stemmed, branching plant eventually growing to 10 to12 feet or more. It is hardy to Zone 6b or so. *Yucca filamentosa* 'Color Guard' is a brilliant bright yellow and green striped plant.

Tetrapanax papyriferus 'Steroidal Giant' (rice paper plant) is a hardy (Zone 6) perennial with enormous, dramatic, 2 to 3 foot wide, deeply lobed, gray-green leaves that are held on long stalks.

Both the *Tetrapanax* and *Yucca* thrive in full sun and clay soil and require very little water or fertilizer.

Temperate Plants with a Tropical Look as Companion Plantings

Tropical plants integrate beautifully with typical Virginia landscapes, offering great colors and textures and, in the case of palms, evergreen interest. Any temperate plants with large or unusual foliage, good tropical color in the

This yucca (Yucca recurvifolia) grows in Montgomery County, Md. (Zone 7a). The plant was pruned to remove older leaves and show more of the stem. At about 10 years of age in this photo, the plant is almost six feet tall. (Photo by Joe Seamone)

Rice paper plant (Tetrapanax papyriferus 'Steroidal Giant') produces enormous leaves that contribute to the tropical jungle look. This specimen grows in the Falls Church, Va., garden of Tim (shown) and Susan Grinnings (Zone 7). A hardy perennial, it dies back to the ground each winter. (Photo by Joe Seamone)

flowers, and/or a robust growth habit will complement a tropical scheme. The list below is offered as a starting point (E = evergreen plants):

Acanthus	Fatsia (E)
Bergenia (E)	Hellebore (E)
Calla lily	Ligularia
Canna lily	Magnolia
Darmera	Rhodea (E)
Daylily	Rodgersia
Euonymus (E)	

Cyperus alternifolius (Umbrella Palm)

Zone Pushing and Full-Blown Zone Denial

Gardeners have employed various tricks over the years to extend the growing season, and for some tropical plants, borrowing a few of these tricks can help plants through the first few critical years until they are fully acclimated. These measures can also help "push the zone," improving survival rates for growers in colder zones. The internet is full of various approaches to winter palm protection, from temporary greenhouse structures to the use of water's thermal capacity to moderate air temperature.

Some gardeners choose to use frost-cloth and, occasionally, Christmas lights to provide extra "insurance" that their treasured palms survive their first few winters. These measures also can help preserve the beauty of the leaves through the winter by offering protection from leaf or tip burn, and allow the palm to sail into spring with more beautiful foliage.

Regardless, protection should be removed in March, as the longer days and warming air stir the palm from dormancy. Any types of heating or enclosures provided around palms should be constructed and operated to allow the palm to "sleep" through winter in cool dormancy, as opposed to maintaining temperatures that would encourage active growth. Gardeners should remember that the three most cold-hardy palms are easily able to survive temperatures well below freezing, so there is no need to "baby" them with Florida-like temperatures.

Resources

Palm enthusiasts in Virginia are fortunate to be able to log on to a free web-based forum in which like-minded gardeners share their experiences. The Virginia Palm Society Message Board may be found at: http://members7.boardhost.com/VPSB/index.html?1238032390#1237440470

Ralph and Kathy Denton of Pungo Palms Nursery in Virginia Beach specialize in rare and hardy palm trees, cold hardy cactus, and hardy sub-tropical plants. Their contact info: Pungo Palms Nursery, 1201 N Muddy Creek Rd, Virginia Beach, VA 23456-4133; 757-426-3677.

Sean McFall of Chilly Palm Tree Co. (www.chillypalmtree.com) raises cold-hardy palms near Charlotte, NC. His site contains valuable planting and care information as well as insights from his nursery and client experience in various USDA zones.

Brian Williams in Louisville, Ky., is a pioneer of cold hardy cannas, elephant ears, and bananas and an excellent mail order source. He may be found at: http://www.briansbotanicals.net/about.html

Often cited as the "Bible" of temperate tropical gardeners, Palms Won't Grow Here (and other myths) by David Francko (Timber Press) is a thorough and engaging discussion of palm and tropical research conducted by Francko at Miami University of Ohio.

Other recommended books are:

Betrock's Cold Hardy Palms, Alan Meerow, Betrock Information System, 2005.

Hardy Palms for the Southeast, Tom McClendon, Will Roberds and Joe LeVert, Southeastern Palm Society. 2007; http://www.sepalms.org/

Hardy Citrus for the Southeast, Tom McClendon, Southeastern Palm Society. 2004; http://www.sepalms.org/

Hot Plants for Cool Climates, Dennis Schrader, Timber Press, 2005.

Tropical Plants for the Home and Garden, William Warren, Thames & Hudson, 2006.

To determine your USDA Hardiness Zone, use this map: http://www.usna.usda.gov/Hardzone/ushzmap.html

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