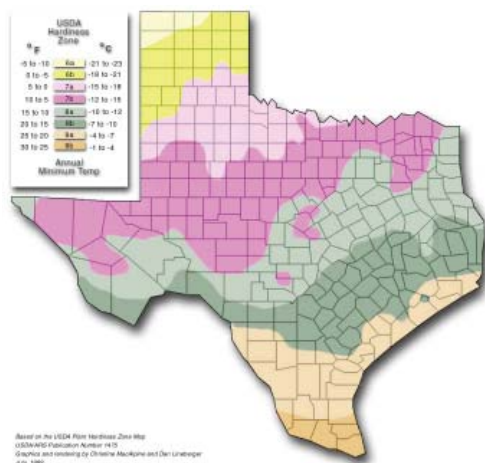


Cold Hardy Palms

For Galveston County and the Texas Upper Gulf Coast:

Palms are an important part of the landscape in Galveston County and other coastal areas along the Texas Upper Gulf Coast. Given their adaptability to a broad range of soil types and growing conditions, palms will continue to be among the widely used landscape plant materials in the area. With well over 20 different palms species to choose from, it can be confusing and difficult to select the most suitable specimen for landscape use.

There are numerous characteristics to consider when selecting a palm. Size, shape and leaf type are among the most obvious. But the single most important factor to consider when selecting a landscape palm is COLD TOLERANCE. Cold tolerance is not something most consumers think about given the semi-tropical nature of the regional environment. However, more palms are lost to cold damage than to any other factor - including insects, diseases and/or salt damage. Selecting a palm species on the basis of cold tolerance is the most effective means of ensuring long-term success in the landscape.



Hardiness is the term used to describe a plants ability to tolerate cold temperatures. The USDA Hardiness Map divides the US into several Hardiness Zones based on a range of average low temperatures. Galveston County and the Texas Upper Gulf Coast are located in Zone 9, with a minimum temperature range of +20 °F to +30 °F. Caution: These are average lows and it should be noted that on occasion temperatures can dip below the +20 °F mark. Another important reason for selecting palms based on cold hardiness.

Generally speaking, there are two different types of landscape palms: (1) those with fan-shaped fronds (also known as leaves) and (2) those with feather-shaped fronds. Each has a distinctive appearance and aesthetic impact on the landscape. The following is a brief overview of some of the most well-adapted palm selections for Galveston and the Texas Upper Gulf Coast.

Canary Island Date Palm - *Phoenix canariensis*

The Canary Island Date Palm is a stately specimen that can range from 50' – 60' in height. The foliage forms a distinctive crown. Individual fronds may reach 8' – 10' in length, with sharp spines at the base. The attractive, diamond pattern on the trunk is formed from leaf scars. Trunk diameter can reach 4'. The flowers are hardly noticeable but form clusters of orange, date-like fruit.

The massive size of the Canary Island Date Palm limits its use in residential landscapes. However, it is a slow grower and may take several years before reaching its mature size. This cold hardy palm is well-adapted to the area and does well in a variety of soil conditions.

True Date Palm - *Phoenix dactylifera*

Several palms are referred to as “date” palms but *Phoenix dactylifera* is the species which produces the flavorful fruit. This multi-trunk palm is most often pruned to a single trunk form which may reach a height of 100'. The blue/green – gray fronds are 18' – 20' long and form a canopy of foliage that may reach 40' in diameter. Sharp spines occur at the base of individual leaflets. A diamond pattern is formed on the trunk by old leaf scars. Trunk diameter ranges from 15" – 20". The yellow - red fruit (dates) consist of a large pointed seed surrounded by sweet sugary flesh. There are both male and female plants. In late summer, female plants produce dates. Dates are not formed in climates that are too cool.

This palm is excellent for large landscape areas. The True Date Palm exhibits suitable cold hardiness for landscape use. It is well-adapted to a wide range of soil conditions.

Pindo Palm - *Butia capitata*

The Pindo Palm is an impressive, cold hardy specimen with blue-grey fronds that make a characteristic arching curve toward the trunk. Plants can get up to 20' tall. The thick, rugged trunk is covered with old leaf bases. The stiff fronds can reach up to 15' in length. The graceful curve of the canopy creates a very distinctive appearance for use in a variety of landscape situations. The orange – yellow fruit is edible but can be messy on walks, drives and other paved surfaces.

Pindos are slow growing and work well in tight landscape situations or in public right-of-way planting areas. This plant is very well-adapted to the Texas Upper Gulf Coast and does well in soils ranging from well-drained sand to heavy clay.

Texas Sabal Palm - *Sabal texana* or *S. mexicana*

This Texas native palm is cold hardy and can grow to 50' in height with a trunk diameter up to 30". Individual, fan-shaped fronds can reach 15' in length. These fronds create a canopy of foliage between 8' - 25' in diameter. The trunk of older specimens has closely spaced annual rings. Part of the trunk remains covered with old leaf bases that form a characteristic crosshatch pattern. The smooth petioles (stems) are thornless. The flowers and small, black fruit are inconspicuous.

Texas Sabals are excellent for the Texas Upper Gulf Coast and can withstand a variety of soil conditions, salt and wind. Best used in larger landscape areas, this palm is also frequently used as an accent plant.

Florida Sabal or Cabbage Palm - *Sabal palmetto*

The Cabbage Palm is a single trunk specimen that grows 50' in height but may reach up to 70' in some landscape situations. The crown of foliage is somewhat small, averaging 12' – 18' in diameter. The yellow-green fronds are approximately 12' long including the thornless leaf stem. The trunk of immature specimens is often covered with leaf bases which form a criss-cross pattern. Older palms shed these leaf bases and form a fibrous, brown trunk. Eventually the trunk of all Cabbage Palms ages to a smooth, gray color. In summer the long, branched flower stem produces a black-colored fruit.

The Cabbage Palm is very salt and drought tolerant. This palm has a variety of landscape applications but is particularly well-suited for beachside plantings. It is able to adapt to most types of soil.

California Fan Palm - *Washingtonia filifera*

This single trunk palm usually grows 40' – 50' feet in height but can get up to 80 feet tall in some landscape situations. The 2' – 3' diameter, trunk is gray in color with horizontal rings and vertical fissures. The fan-shaped leaves are spread from around the top of the tree while numerous old, dead leaves hang down against the trunk. In the spring, huge clusters of white, 3-lobed, funnel-shaped flowers, about 1/2 inch long, hang down from leaf bases. Elliptical black fruit, about 1/2" in diameter, have a very large, brown seed surrounded by a thin, sweet pulp.

The California Fan Palm, also referred to as the Desert Fan Palm, is well-suited to the home landscape since it grows slowly and remains small for a long time. This selection is very well-adapted to the climate and soils of the Texas Upper Gulf Coast.

Mexican Fan Palm - *Washingtonia robusta*

This single trunk palm can reach over 100' tall, often visible from long distances above the landscape canopy. The relatively narrow (10" – 12" dia.), gray trunk, has rings of closely set leaf scars, forming a semi-smooth surface. The trunk usually has a characteristic bulge at the base, narrowing towards a crown of fan-shaped leaves. Individual fronds can reach 5' in length and 3'-4' in width. The leaf stems have sharp spines at the base. As these leaves die they lay flat against the trunk, creating a very distinct and recognizable appearance. Flowers/fruit occur in the summer and the seed are among the more easily propagated palms.

The Mexican Fan Palm may be the most widely used landscape palm in Galveston and the Texas Upper Gulf Coast area. This is largely because it is extremely cold hardy and does well in a variety of growing conditions, ranging from shade to full sun – sand to heavy clay.

Chinese Fan Palm - *Livistona chinensis*

Mature specimens can reach up to 50' in height but smaller, immature plants are more commonly seen in the landscape. The Chinese Fan Palm is most distinguished by its large, lush-green fronds that measure 3' – 5' across. These leaves are deeply divided with numerous segments, forming a wispy, vase-shape. The trunk of older plants can reach 18" in diameter and changes from a brown color to gray as it ages. The flowers occur within the dense canopy of leaves and are not particularly showy. The seeds are blue-gray.

The Chinese Fan Palm is an excellent, low growing specimen in the landscape, creating a very tropical appearance. A dwarf form, *Livistona chinensis subglobosa*, is available. This cold hardy palm is unique in that it does well as an under-story planting or as a single trunk specimen in the landscape. Well-adapted to a variety of growing conditions in Galveston and the Texas Upper Gulf Coast.

Queen Palm - *Syagrus romanzoffiana*

The Queen Palm is extremely popular; however it is marginally cold hardy throughout the area. This plant can grow up to 50' tall with a grey trunk, ringed with evenly spaced leaf scars, reaching a diameter of 18" – 24". The fronds have double rows of leaflets, creating a very feathered/fringed appearance. The canopy is impressive and lower leaves droop downward often swaying in a gentle gulf breeze. The flowers are extremely attractive throughout the summer. The fruit are bright orange and form in clusters which are also very colorful. These fruit can become a sticky nuisance when they drop.

It is easy to understand why the Queen Palm is so popular. It has a very graceful appearance and is an excellent example of a feather-leafed palm. Although it is extremely adapted to various soil and growing conditions, this palm is susceptible to cold weather damage below +25 °F and will freeze at +20 °F.

Windmill Palm - *Trachycarpus fortunei*

The Windmill Palm has many outstanding attributes for Galveston and the Texas Upper Gulf Coast region. This plant is among the most cold hardy palms available. It is also a more compact growing species, reaching a mature height of a mere 20' – 40". The trunk is slender (8" – 12" in dia.) and younger specimens are covered with a mat of gray fibers that create a unique appearance. The trunk of older plants has a smooth, ringed surface. The fan-shaped leaves are silvery-green in color and the leaf stems have small teeth along the edges. The leaves are arranged in a tight crown, reaching 8' – 10' across. There are both male and female plants. In late summer a blue fruit develops on the female plants.

The Windmill Palm is among the very best fan-shaped palms for the area. Its compact form puts it in scale with most residential landscapes. Based on cold hardiness alone, this plant is ideally suited for the Texas Upper Gulf Coast. In addition, the Windmill thrives in sandy, well-drained soils, as well as poorly drained, heavy clays.

Mediterranean Fan Palm - *Chamaerops humilis*

The Mediterranean Fan Palm is another outstanding, cold hardy palm for Galveston County and other areas along the Texas Upper Gulf Coast. This multi-trunk species will reach a mature height of approximately 20'. The trunks are covered by leaf scars creating a rough texture. Most clumps consist of 3 – 5 individual stems/trunks. The triangular-shaped fronds grow upright and are typically 2' across. They are deeply divided with multiple segments. Leaves can range from blue-green to a more gray-green in color. The leaf stems have sharp teeth. The fruit/flowers are not showy compared to other palm species.

The Mediterranean Fan Palm is an outstanding selection for the area – especially if looking for a multi trunk form. Its compact growing habit makes it well suited for residential landscapes. This palm is extremely well-adapted to a broad range of soil and growing conditions and is very drought tolerant as well. The Mediterranean Fan Palm will take cold temperatures down to +10 °F.

Dwarf Date Palm - *Phoenix roebelenii*

This relatively small, multi-trunk palm is an excellent landscape plant but lacks the cold tolerance of some of the more hardy species. The Dwarf (or Pigmy) Date Palm grows to 6’ – 12’ in height. The trunk (5” – 10” in diameter) is covered in old leaf bases, giving it a rough appearance. The shiny leaves grow upright and can reach 4’ in length. Feathery leaflets arch towards the trunk, creating an attractive tuft of foliage. The flowers and fruit are not showy. Fruit occur only on female plants.

The Dwarf Date Palm can also be grown in a single trunk form. These plants are also frequently used in containers for patios, decks and atriums. Their small size makes them ideal for residential landscapes. This palm species is widely used throughout the area despite its lack of cold tolerance. Damage often occurs at +30 °F on plants in unprotected areas.

Sago Palm - *Cycas revoluta*

The Sago Palm is really not a palm at all. It is more closely related to pine trees (conifers) than palms. However, its rough textured trunk and feathery leaves gives it the look of a palm – hence the confusion. The Sago Palm, also referred to as a Cycad, can grow up to 12’ in height. The thick, leathery leaves are finely segmented and occur in whorls. This circular arrangement creates a very round, symmetrical form. The flowering/fruiting habit of this plant adds to its interest in the landscape. Mature Sagos form reproductive structures at the center of the plant. Both male and female plants occur and each has unique reproductive structures.

Sagos are an important part of the Gulf Coast landscape environment. They are generally adapted to sandy and heavy clay soils. However, they are susceptible to a variety of pest problems and have limited cold tolerance. Although they are rated for Zone 9, cold damage frequently occurs at temperatures near the +30 °F mark.

The following palm species are also widely available throughout the area. However they have LIMITED COLD TOLERANCE and are not well-suited for Galveston County and the Texas Upper Gulf Coast.

Foxtail Palm - *Wodyetia bifurcata*

Areca Palm - *Chrysalidocarpus lutescens*

Cardboard Palm - *Zamia furfuracea*

Majesty Palm - *Ravenea glauca* or *rivularis*

Fishtail Palm - *Caryota mitis*

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