The Palm Reader

A Manual for Growing Palms Outdoors in the Southeast

Compiled by members of the Southeastern Palm Society

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Introduction

This is a booklet about selecting and growing palms outdoors in the southeastern United States. The plants described in this book are well-adapted to growing conditions in what is traditionally known as the Deep South. In horticultural terms, the Deep South can be described as an area roughly coinciding with those parts of USDA Hardiness Zones 7 and 8 that lie between Chesapeake Bay and the Mississippi River. This area includes the states of North Carolina, South Carolina, Georgia, Alabama, and Mississippi (except for some mountainous areas), and most of the Florida panhandle.

Yes, they will grow here

Plant a juniper, a rosebush, or a red-tip photinia in your yard, and your neighbors will think you're "landscaping." Plant a palm tree in your yard and your neighbors will think you're crazy. "Those things won't grow here," is an attitude that most southeastern palm enthusiasts have to live with, unless they're in a coastal area.

The good news is that palms are for the most part, deaf and dumb. There are palms happily growing all over the Southeast in places where they're "not supposed to grow." By choosing the right types of palms and following a few simple rules, growing palms can be much easier than growing many common landscape plants. In this booklet, we'll offer our best advice on how to do these things.

The material in this booklet is based on the real-life palm-growing experiences of the members of the Southeastern Palm Society (SPS). SPS members have successfully grown palms outdoors in Alabama, Georgia, North and South Carolina, and even as far north and inland as Tennessee. So why not ignore that grumpy neighbor and give palms a try?

What is a palm, anyway?

Most people in the United States think of palms as those green, leafy things that you tend to see inside when you're at a fancy restaurant, or outside when you're on vacation in Florida. To be very precise about it, the word "palm" refers to a particular group of flowering plants, though palm flowers aren't as decorative as those of roses or lilies. Technically speaking, palms are monocots, which means that palms always start out life with a single leaf, as do other monocots such as iris, lilies, corn, grasses, orchids, and yuccas. All palms have large, conspicuous leaves that have a distinctly architectural look.

Palm botany

Palms can be shrubs, trees or, in the tropics, even vines. Most palms form some kind of woody trunk, but a palm trunk is different from the trunk of an ordinary tree. Palms rarely form branches, but keep their leaves clustered at the end of the trunk, or trunks, if the palm has more than one trunk.

Palms are also different from ordinary trees and shrubs in the way they grow. Most trees grow from the inside out, laying down a fresh layer of new wood each year, just inside the bark

of the tree. Palms, on the other hand, only grow from the end of their trunks. The trunk of a palm tree contains a mass of spongy conductive tissue, and a palm trunk will not get much thicker with age. There is really only one growth bud contained in every palm trunk (with some rare exceptions), and that is the bud at the end of the trunk. If that bud is killed, the trunk cannot produce new leaves and will eventually die. Very few palms will sprout back from their roots.

The leaves of palms come in two basic shapes: fans (palmate) and feathers (pinnate). Most of the palms that will grow in the Southeast are fan palms. Their leaves resemble a human hand with outstretched fingers. Many tropical palms, particularly the ones that are grown as indoor plants, have feather-shaped leaves.

There are also some palms that have leaves whose shape is intermediate between fans and feathers. This leaf shape is known as costapalmate. A good example of a palm with this type of leaf is the cabbage palmetto (*Sabal palmetto*), which is the common palm tree native to coastal areas of the Southeast.

Palm ecology

Palms grow in most areas of the world where there is enough moisture for plant growth, and where the ground does not freeze. Although most palms come from tropical areas, there are quite a few palms native to temperate areas, including the southeastern United States outside of Florida, there are six or seven species of palms native to the continental United States, depending on which botanist you ask. Four of these species are native to the Southeast.

Although palms are widespread throughout the warmer parts of the world, palms rarely dominate any forests that contain other types of trees. Instead, palms are usually adapted to grow under the shade of other trees, or to grow in situations that other trees can't tolerate. The first

Some Myths About Palms

Palms are tropical plants.

The truth is that *most* palms are tropical or subtropical. But there are somewhere between 50 and 100 palm species that will take temperatures below 20°F. A few will handle temperatures below 0°F.

Palms are too delicate for ordinary landscapes.

The truth is that palms are tough plants. In coastal areas of the Southeast, cabbage palms are often the only trees left standing after hurricanes. In Nagasaki, Japan, palms not at ground zero started into new growth a few weeks after the city was leveled.

Palms are "exotic" plants.

The truth is that palms are native to the Coastal Plain and lower Piedmont of the Southeast. Palms are native. Boxwoods, evergreen azaleas and daffodils are exotic.

Palms don't have showy flowers.

The truth is that *some* palms have very showy flowers. Two good examples are the native dwarf palmetto (*Sabal minor*) and the blue hesper palm (*Brahea armata*).

Palms will make my yard look like Carmen Miranda's.

Not unless you want it to look that way. Palms can be found in courtyard gardens in Charleston and Savannah, in somber temple gardens in China and Japan, in dozens of famous gardens in the British Isles, and in many other kinds of gardens around the world. Palms are adaptable to any style of landscaping.

type of palm tends to be very tolerant of shade, and tends to grow in a clump of fairly small trunks. A good example of this type of palm is a common indoor plant known as the areca palm or butterfly palm, *Chrysalidocarpus lutescens.* The areca palm grows naturally in the forests of Madagascar.

The second type of palm tends to grow in conditions that are too hot, too stormy, or too fire-prone for other trees to flourish. A good example of this second type of palm is the cabbage palmetto, *Sabal palmetto*, which is native to the southeastern coast of the United States. Cabbage palmettos tolerate salt spray, sandy soil, fire, and an occasional hurricane better than almost any other tree native to the southeastern coast.

Generally speaking, palms are associated with water. In the Southeast, almost all native palms are found in either river valleys or in low, flat areas near the coast. Although many palms are native to desert areas, such palms are usually found near springs, streams, or other permanent sources of water.

Why are some palms cold-hardy and others not? All cold-hardy palms have a special adaptation that palms from warmer areas don't have. During freezing weather, palms and other hardy evergreens face the same problem as a car engine. They need water to "run"—that is to carry out photosynthesis and feed themselves, yet the water that they need is frozen in the form of ice.

Cold-hardy palms solve this problem the same way that antifreeze solves the problem for a car engine. These palms and other hardy broadleaf evergreens can "supercool" water inside their leaves, trunks, and roots. Supercooling means that somehow the water inside their leaves stays in liquid form, even though the temperature of the leaf goes below freezing. We say it *somehow* because scientists don't completely understand how this happens. Fortunately, the cold-hardy palm species seem to have it all figured out.

Palm fakers

Not all plants that look like palms are palms. In everyday speech, the term palm can refer to just about any large-leafed evergreen bush or tree. One non-palm that really does look a lot like a palm is the sago palm (*Cycas revoluta*) that is commonly sold in coastal areas of the Southeast. The sago "palm" is actually a cycad. Cycads are an ancient group of plants that are closely related to cone-bearing trees such as pine and spruce. Another cycad that is commonly sold in coastal areas is the Florida coontie (*Zamia integrifolia* or *Zamia pumila*).

Another palm-like group of plants are large, evergreen members of the lily family such as yuccas and cordylines. Some yuccas can grow very large under ideal conditions, and eventually they can take on a palm-like look. Cordylines such as *Cordyline australis* and *Cordyline indivisia* look like softer, looser yuccas and can also look very much like palms. One key difference between members of the lily family and palms is that members of the lily family generally form branches, while most palms remain branchless throughout their life.

Perhaps the most common palm impostors in our area are bananas. Bananas aren't really trees since they don't have a woody trunk. Instead, banana trunks resemble a giant stalk of celery and consist mostly of water. The high water content of banana leaves and trunks makes them vulnerable to the effects of hard freezes, so bananas aren't evergreen in our area. If winter tem-

peratures go below 20°F, bananas may be killed to the ground. Usually they will come back the following summer, however, unless winter temperatures are extremely cold.

Please don't get us wrong. We like palm impostors and enjoy growing them. We just recognize that when we're doing this, we're growing something other than a palm.

How to Grow Them

What do palms want?

The short answer to this question is easy: Palms want to be in Florida. The long answer to this question takes a little more time. Just why are palms so happy in Florida, after all? Well, for starters, it's plenty hot in Florida, which is very much to the liking of most (though not all) palms. Second, Florida gets a lot of rain during the hot part of the summer, which is when many palms are in their most active period of growth. Third, much of Florida is covered with sandy soil underlain by limestone, both of which are conducive to the growth of many palms. Last, but certainly not least, is that temperatures in Florida do not go below 0°F.

Unfortunately we can't control the weather that our outside plants have to put up with. Still, we can make the best possible use of our natural weather patterns. As far as growing palms is concerned, the Southeast is blessed with a long, hot, rainy summer. (Try to remember that next August.) Most palms will grow well only when daytime temperatures are between about 80°F and 95°F. Our long, hot summers mean that palms set out in mid-spring will have five or six months to become established before the onset of frost. You can help your palms get established by lightly fertilizing them at planting time, and by keeping them well watered during the hottest part of the summer.

Planting your palms

Soil conditions are less than ideal for palm growing in many parts of the Southeast. The ideal soil for growing palms tends to be well drained, fertile, and slightly acidic in reaction. In many parts of the Southeast, soils are heavy, poorly drained, and extremely acid. Fortunately, many palms that are native to swampy areas will do just fine in this type of soil, as long as you dig a wide, shallow planting hole, and add dolomitic lime to the soil. Dolomitic lime is a slow-acting form of lime which contains calcium and magnesium. For best results have a soil test done and follow recommendations—do not raise soil pH above 7.0. If your soil is heavy clay, it also helps to wash most of the potting soil off the roots of the palm before planting it. This allows the palm's roots to make better contact with the native soil. Palm roots will often die if cut or torn, so be careful not to injure roots during planting.

An unusual feature of palms is that they have the ability to sprout new roots from the sides of their trunk. Because of this ability, it is better to plant palms a little bit (maybe an inch or so) deep, even in heavy soil, so as to get better contact of the roots and the soil. This recommendation is just the opposite of that for rhododendrons, camellias and many other woodland plants,

but it seems to work well in real life. Generally speaking, the roots of a palm are more sensitive to cold than any other part of the plant. Planting slightly deep protects the palm's roots from cold.

Many cold-hardy palms are native to low-rainfall climates. These desert palms require soil conditions similar to those required by cactus or other desert plants. Even though these palms need regular watering during their period of active growth, palms from desert areas do not like having their roots in cold, heavy, wet soil during periods of freezing weather. In areas with heavy clay soils, these palms will grow better and have greater cold-hardiness when planted deeply in a berm or raised mound of well-draining soil. A good recipe for desert soil is one part native soil, one part pine bark, and one part coarse sand, enriched with dolomitic lime, superphosphate, and bone meal, and other organic material.

If you live in an area with sandy soil, you're in luck. Many palms will do just fine in sandy soil with the occasional addition of dolomitic lime and fertilizer. Some palms, such as the Chinese windmill palm (*Trachycarpus fortunei*), will do much better in sandy soil if it is enriched with organic matter such as pine bark, composted leaves, etc. Another problem with sandy soil can be a lack of soil micronutrients, particularly manganese. A lack of these elements can cause palms' leaves to take on an unattractive, yellowish color, and can result in an overall lack of vigor. If your soil is extremely sandy, you may want to have a soil test done to check on the levels of these nutrients. Your county extension service can do the test and can recommend fertilizers or trace element supplements to correct any deficiencies.

There are some special planting rules that apply when you're transplanting large palms that have been dug from the ground. In our area, the only species that is commonly planted this way is the cabbage palm or *Sabal palmetto*. If you are thinking of transplanting a large *Sabal palmetto*, see the special note below for that species.

During the growing season

Palms require little maintenance during the growing season. In most areas of the Southeast, the season of rapid growth for palms coincides with the arrival of high temperatures in the mid-eighties. This season runs from about May-June through September-October. In Florida, one rule of thumb for fertilizing palms is one-half pound of fertilizer for every two feet of trunk height, applied three or four times per year. However, this very high rate of fertilization is not necessary in our area, given our heavier soils and shorter growing season. One or two applications at the rate of one-quarter pound per two feet of trunk should be sufficient.

In Florida, palms are commonly fertilized with a "palm special" fertilizer that contains trace element supplements. Our observation suggests that this practice is an absolute necessity only for certain non-native species of palms that are growing in extremely nutrient-poor, sandy soil. If palm special fertilizer is needed and not available, composted manure makes a good, readily available substitute.

Most palms will tolerate some drought. In the Southeast, however, it is a good idea to keep your palms well-watered during their period of rapid growth. Doing so will help the palms put on new, vigorous growth, and will help ensure a stronger plant going into the winter. In the absence of adequate rainfall, soaking the ground around the palm thoroughly once a week should suffice.

Keeping the ground constantly waterlogged is unnecessary and in the case of certain species, will result in the death of the plant.

The only pruning that most palms need is occasional removal of dead fronds. The growing bud of a palm should not be pruned. Palm trunks cannot grow new buds and pruning the bud could result in injury or death to the plant. The natural growth habit of palms does not allow them to be maintained at a constant height.

Weathering the winter

You can minimize the impact of winter on your palms by proper siting and by following good cultural practices. It also helps to know what sort of winter weather can cause problems with palms. Ordinary winter weather in the Southeast is usually not hazardous to cold-tolerant palms. The kind of winter weather that is hazardous is a cold snap during which the temperature falls below 15°F, usually following a spell of mild or rainy weather. In the typical cold snap, temperatures can drop by as much as 50 degrees in the space of a day or less. Cold snaps are usually accompanied by strong winds that come from the north or northwest. Palms are generally very susceptible to these winds. A combination of ground freezing, large evergreen leaves, and strong wind can subject palms to severe moisture stress. Under such conditions palms can become literally freeze-dried.

The best way to avoid this unpleasant outcome is to plant your palms in a warm, sunny spot protected from winter winds, especially winds from the north and west. Hardy evergreens such as southern magnolia, holly, pine, hemlock, or live oak (in coastal areas) make good wind screens, as do fences or walls that let some of the air through. It is also helpful to plant palms fairly close to a house, where the roots will be protected against ground freezing by the heat of the house. The best sides of the house to plant on are the south and east sides (although the opposite is true for other broadleaf evergreens such as camellias). Since cold air tends to collect in low spots, it is generally best not to plant most species of palms in these frost pockets. The same holds true for exposed hilltop locations.

Good cultural practices can also help minimize the impact of winter on your palms. These practices include planting in mid-spring, regular liming in areas with acid soil, fertilization with a complete fertilizer in the spring and summer. Larger palms are much more resistant to frost than are smaller palms, so it is best to plant in large sizes, preferably five gallons or larger.

If you know that a severe cold snap is on its way, there are a number of easy methods of protecting your palms. A cardboard box or a quilt placed on top of a small palm, and weighted down with a bricks or rocks, can provide adequate shelter for most cold-hardy species. The cover should be removed after four or five days, at the most. Another effective low-tech way of protecting fairly small palms is to temporarily bury them under a mound of pine straw or some other type of mulch. Most of the mulch should be removed once the weather warms up. Leaving the mulch on top of the plant can promote rot. Some of our members have used polymer sprays (sold under names such as Wiltpruf® and Cloud Cover®) with good success; however the general effectiveness of these sprays in preventing frost damage needs to be better evaluated.

Palms with a tall, solitary trunk tend to be the most vulnerable to winter cold damage. If you know that a severe cold snap is on its way, you can help prevent damage to your trunked palms

by tightly wrapping the trunk with burlap, old blankets, or some similar insulating material (We don't recommend plastic, but some SPS members have used it with good success.). Again, it's probably best to remove this material once the really cold weather has passed.

Some palm enthusiasts go to extreme measures to give winter protection to species that are marginal for their area, building temporary shelters for these plants and adding outside sources of heat during cold spells. However, most people in the Southeast should be able to grow some species of palms outdoors without going to such lengths. The silver lining to our cold snaps is that most of them are very short-lived. It is rare for freezing weather (where the temperature stays below freezing all day) to last more than one or two days in the Southeast. The short duration of these cold snaps keeps the ground from freezing deeply, and allows palms and other evergreen plants to quickly recover once the cold has passed. So giving your palms a little bit of shelter during the worst part of these cold spells is usually enough to bring them through the winter unscathed.

If your palms are damaged by cold, remember that it doesn't necessarily mean the end of the world. As long as the bud tissue inside the trunk is not too damaged, the palm will grow new leaves the next summer, though sometimes only towards the *end* of the next summer. A good way to tell if some damage has occurred is to go out and give the leaf that is just starting to come out of the trunk (this is called the terminal spear) a good tug. If the terminal spear pulls out, then the bud tissue has been damaged.

Even in extreme cases where all of the palm's leaves have been killed and bud damage has occurred, all is not necessarily lost. In such cases the best thing to do is to remove all the damaged leaves and shoots from the top of the trunk, and to spray with a copper-based fungicide. A more extreme and controversial method is to remove all tissue from the top of the trunk (with a saw if necessary) until you start to see live, green bud wood. The remaining live wood should then be regularly sprayed with a fungicide until the plant is growing strongly. It pays to be patient; sometimes severely injured plants will not start growing again until mid or late summer.

A word about pests

And now for the good news. Just as most palms live in the tropics, the same is true for the most serious palm pests. This means that most palms very rarely have insect or disease problems in the Southeast. Not that palms are immune to all the common plant problems, only that they seem to be fairly resistant as a group. Most palms, after all, actually require hot weather to grow well, and more than a few of them love humidity, too.

Some of the most common pest problems are caterpillars, scale, and red spider mite. Caterpillars can be very easily controlled using bacterial sprays or powders, scale can be controlled in most cases by spraying the palm's leaves with a horticultural oil spray in the spring. If this isn't entirely effective, more extreme remedies can be recommended by your county extension agent. Oil sprays are also fairly effective against spider mites. Usually two or more sprays are required; the sprays should be about five days apart. Horticultural oils shouldn't be used during freezing weather or during extremely hot weather.

Dry-climate palms can suffer from fungal attack in our humid climate. However, usually this is not a problem so long as these palms are planted in well-drained soil and in adequate sunlight.

The Rules for Growing Palms in the Southeast

- Plant cold-hardy species.
- Plant palms when you plant tomatoes.
- Plant palms in large sizes.
- Plant palms in sunny spots where they are sheltered from winter winds.
- Plant palms in a wide, shallow planting hole.
- Plant palms a little deep in clay and deeper in sand.
- Add dolomitic lime to the planting soil, unless your soil contains it naturally.
- In clay soil, plant dry-climate palms in raised berms of artificial desert soil.
- Keep palms well-watered and fertilized during warm weather
- Be prepared to provide extra protection during cold snaps.

Some Palms You Can Grow

Where do you live?

The number of palm varieties that you will be able to grow outside depends on where you are located in the Southeast. When it comes to growing palms in the Southeast, there are basically four climatic regions. The first of these consists of the immediate coast of South Carolina, most areas in Georgia that are within about 30 miles of either the coast or the Florida border, and in Alabama, the Mobile Bay area. This region corresponds to United States Department of Agriculture Hardiness Zone 8b. Zone 8b is the USDA's way of telling you that during an ordinary winter, you can expect temperatures to stay above 15°F. If you live in this area, you are used to seeing palms growing outdoors. In this area, most cold-hardy palms don't need any special winter protection. Some exotic (non-native) palms may be injured in extremely cold winters.

The next climatic region consists of coastal areas in North Carolina, and areas that are a little further inland, but are still located to the south and east of the fall line that runs through Columbia, Aiken, Augusta, Macon, Columbus, and Montgomery. This region is in USDA Zone 8a, meaning that winter temperatures usually stay above 10°F and almost never fall below zero. In this area, palms occur naturally in river flood plains, and are occasionally grown in landscape situations. A good variety of palms can be grown here, but many exotic varieties will need some extra care (mulch, trunk-wrapping) during cold winters.

The next region consists of areas to the north and west of the fall line that don't commonly experience below-zero temperatures. This area corresponds to USDA Zone 7, which includes western North and South Carolina, northern Alabama, and northern Georgia, except for the mountains above 2,000 feet. In Tennessee, this area includes the immediate vicinity of the cities

of Memphis and Chattanooga. In this area, palms are definitely an oddity. There are a few stands of native palms in the southern parts of this region, but these are very rare. The outdoor cultivation of palms is also unusual in this area, although many clumping species of palms will do just fine here. Cultivation of arborescent (treelike) palms is difficult here because winter temperatures will drop below zero every five to 10 years, on average. Good site selection is critical. Heavy soils can also be a problem in much of this area.

The coldest area covered by this guide consists of those areas where winter temperatures commonly drop below zero. This area corresponds to USDA Zone 6, which includes most of Tennessee, plus the higher mountains of the other states. Growing palms outdoors in this area is something of a challenge, and your neighbors will think you're nuts. However, the hardiest clumping palms will grow well here when given good care. Arborescent palms probably shouldn't be attempted in this area without some fairly extensive winter protection, and to be on the safe side, some form of artificial heat.

Please remember, these zones are a only a general guide. If you live close to the center of a major urban area or near a large body of water, your yard may be half a zone warmer than nearby areas. On the other hand, if your yard is in an extremely exposed location such as a hilltop, you may be half a zone colder than your neighbors. The same holds true for low spots.

Palm varieties

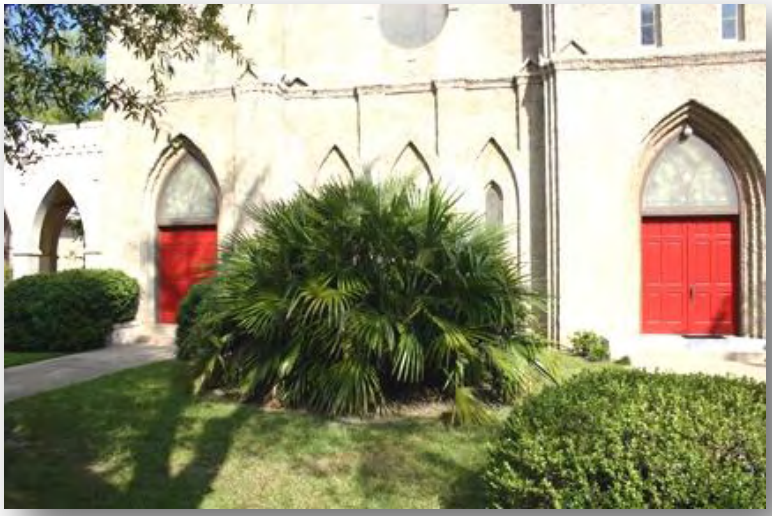
Below, we've listed some of the palms that have been successfully grown in the Southeast, roughly in order of hardiness.

Needle Palm

Scientific name:
Rhapidophyllum hystrix

Description: Clumping, understory palm with many palmate, deep-green leaves that have silvery undersides. Its crown is protected by numerous very sharp needles, hence the name.

Native habitat: River flood plains of the Southeast, mostly below the fall line. Often grows under hardwood trees where the water doesn't flood too deeply in winter. Often grows over limestone. Rare to the point of endangerment.



Needle Palm
Eufaula, Alabama

Size: Ultimately the plant is about 10 feet high and wide. More usual size is 5 feet high and wide. Growth rate is slow.

Needle Palm
Greensboro, Georgia

Cold hardiness: Large, established specimens in good sites will easily take short spells of -5°F; new growth is damaged at -10°F. Fifteen degrees below zero is usually fatal, although plants have been known to recover from this temperature. As cold hardy as many varieties of holly and southern magnolia, though the needle palm can't tolerate cold wind. The world's cold-hardiest palm. Unlike most palms, does not seem to mind damp, cold conditions in winter. In good sites, it thrives even at lower elevations in the Appalachian Mountains.

Culture: Looks best with very light shade and adequate moisture, but adapts to many situations. In Zone 7 and north, it must have some sun every day to do well. Occasionally attacked by caterpillars, which are easily controlled. Seems to grow well in any soil with adequate moisture.

Landscape use: Use as a single specimen or in groups. A truly stunning native plant. Nothing is perfect, though: spines are a hazard and foul-smelling seeds are produced in profusion. You won't want to move this plant in a few years, so it's best to think before you plant. Not very tolerant of salt spray. The needle palm's beauty more than makes up for any faults, however.

Other notes: One of the easiest palms to grow in the Southeast. The needle palm requires a warm, moist summer to do well. Hence it is almost never grown in England or the Pacific Northwest, the two favorite haunts of most garden writers. Endangered in the wild, the needle palm's future may depend on its popularity as a landscape plant. Interestingly, in Florida it is illegal to collect these palms without a special permit, but no such permit is required to bulldoze them.

Related species: The needle palm has no close relatives native to the western hemisphere. There is a recently discovered Chinese species, *Guihaia argyrata*, that looks like a smaller version of the needle palm. Unfortunately our experience suggests that the Chinese species is only hardy to about 15°F.

Dwarf Palmetto

Scientific names: *Sabal minor* and *Sabal minor* var. *louisiana*

Dwarf Palmetto
Madison, Georgia

Description: Sometimes described as clumping, but in truth having only one trunk, usually either very short or entirely below ground. Leaves are palmate or slightly costapalmate and vary from green to blue-green in color, usually no more than a half-dozen on a single plant. They differ from the leaves of other native dwarf palms by having a split v right in the middle.

Native habitat: *Sabal minor*: same as needle palm, only much more common. *Sabal minor* var. *louisiana*: river floodplains in Louisiana and Texas.

Size: The usual size is 4 to 5 feet high and wide. Growth rate is slow. *Sabal minor* var. *louisiana* will eventually form a short trunk, usually remaining under 5 feet.

Cold hardiness: Hardy throughout most of the Southeast, but not as hardy as the needle palm. Established plants will take short spells of subzero weather, though some leaf damage may occur if temperatures go much below ten degrees. *Sabal minor* is reputed to be hardier than *Sabal minor* var. *louisiana.* Like the needle palm, not really bothered by cold, wet winters. Wild specimens are often under shallow water during the winter months.

Culture: Dwarf palmettos prefer a moist, sunny location. A bank of a creek or lake is an ideal situation. These palms will also tolerate a fair amount of shade, but growth and blue color will be best in full sun. Any soil with adequate moisture. Only thrives in areas with hot, humid summer weather.

Landscape use: Probably best in groups, but can also be effective as a single specimen. Tolerates some salt spray. There is a truly beautiful planting of dwarf palmettos around the central fountain at Brookgreen Gardens, just south of Myrtle Beach, South Carolina. This palm has an image problem that results from its confusion with the saw palmetto, *Serenoa repens.* Unlike the saw palmetto, the dwarf palmetto does not have spiny leaf stems and does not spread over a large area.

Other notes: Old plants develop a deep root system that makes them difficult to move, a useful fact to remember before planting. Wild plants have extremely deep roots that usually make them not worth the trouble of moving. Easily grown from seed.

Scrub Palmetto
Chattanooga, Tennessee

Related species: The scrub palmetto (*Sabal etonia*) is native to Sandhill areas in Florida. *Sabal etonia* looks like a smaller, stiffer version of *Sabal minor*. It may not be quite as hardy as *Sabal minor*. Another, as of yet unnamed, dwarf species of *Sabal* has recently been discovered in the mountains of Mexico. Several SPS members are currently growing this species. Its leaves are somewhat thicker in consistency than are those of *Sabal minor*, and the blue color of its leaves is especially attractive. Cold hardiness is still under evaluation, but should be roughly the same as that of the other dwarf sabals.

Windmill Palm

Scientific name: *Trachycarpus fortunei*

Description: A palm tree growing on a single trunk, with about 20 leaves. The leaves are fan-shaped and resemble needle palm leaves. The slender (1 foot or less diameter) trunk is brown and is usually covered with a burlap-like substance. The trunk is often wider at the top than at the bottom.

Windmill Palm,
Charlotte, North Carolina

Native Habitat: An understory tree from forests in eastern China.

Size: Height at maturity is 40 feet in California, with 25 feet being more common in our region. Growth rate is moderate to somewhat fast with good care, one to two feet a year at first.

Cold hardiness: Windmill palms are the hardiest palm *trees*, and are probably the only palm trees that are well-adapted to colder climates. Hardy throughout all of Zone 8, and most of Zone 7 if planted in a sheltered site. Has survived temperatures as low as -11°F without permanent damage, but needs a good site and/or extra protection to survive subzero weather.

Culture: In the Southeast, best with full sun (Zone 7) to light shade (Zone 8b). Must have some shade in zone 8b. Will tolerate most soils, but prefers a rich, fertile, loamy soil. Windmill palms grow best with ample water, but they can't tolerate standing water or a high water table. Does not like really warm weather, and grows poorly in southern Florida. Cannot take direct salt spray.

Windmill Palm fruit
Anniston, Alabama

Landscape use: Beautiful in groups, but also effective as a single specimen.

Other notes: Commonly grown around temples and public buildings in eastern Asia. This palm is also grown in such unlikely places as the ish Isles, the Pacific Northwest, and the warmer parts of the former Soviet Union. Unlike most palms, windmills have the ability to harden, or increase their cold-hardiness by as much as five degrees in response to spells of cold weather. However, this hardening is less effective in the up-and-down winters of the Southeast.

Related species: *Trachycarpus wagnerianus* and *Trachycarpus takil* are smaller, (roughly) equally cold-hardy versions of the windmill palm. In fact, they are both probably just varieties of *Trachycarpus fortunei*. They are both attractive, slow-growing and usually quite expensive. *Trachycarpus martianus* and *Trachycarpus khasyanus* look like larger-leafed versions of the windmill palm. These species come from warmer areas (Himalayas and Burma) and their cold-hardiness in the Southeast is still under evaluation. Another species, *Trachycarpus nanus*, has recently been introduced into cultivation from southwestern China. This is a dwarf species that matures at about 4 feet high. The cold hardiness of this species is not known, but should be about the same as for *Trachycarpus fortunei.*

Palmetto, Cabbage Palm

Scientific name: *Sabal palmetto*

Description: The palm tree commonly seen near the coast. Has large, blue-green costapalmate leaves with threadlike strands of fiber hanging off each leaf. Leaves have a distinctive, large notch in the middle. Trees from southern Florida have larger, more elliptical leaves. Trunk is massive (can be a foot and a half across) and wild plants retain old leaf-stems (often called boots) on their trunks in a crisscross pattern. These are usually removed on cultivated plants.

Native habitat: Native to the southeastern coast from southern North Carolina to the northern panhandle of Florida. North of Florida, the native range of this palm is restricted to coastal areas that are subject to salt spray and storms. Also native to inland areas of the Florida peninsula, as well as to the Bahamas.

Size: Can reach 90 feet in Florida; 30 feet is more common in our area. Growth rate is usually moderate in our area. One admirable specimen in Brunswick, Georgia, is about 70 feet tall with a trunk diameter of almost two feet.

Cold hardiness: Almost a weed along the coast and hardy throughout Zone 8, especially when planted in sandy soil. Needs a protected, warm site and/or special sheltering to survive in Zone 7 and north. Some specimens planted in good sites have survived subzero temperatures. Hardiness decreases with trunk height. Also, seedlings and small plants are susceptible to cold damage.

Culture: Plant in full sun to light shade. Does best in sandy soil with some limestone, such as might be found in old shell-mounds near the beach, but very adaptable. Does best with ample water. Very tolerant of salt spray, flooding, fire, and hurricanes. In fact, tolerant of just about everything other than extreme cold. Scale can sometimes be a problem, especially on plants that have been transplanted from wild stands.

Palmetto
Charleston, South Carolina

Special note for transplants: It is possible to buy some very large *Sabal palmetto* plants dug from wild stands in Florida. Transplanted *Sabal palmetto* need some special care to survive. First, every leaf should be removed from the plant. *Sabal palmetto* roots cannot grow back once they have been cut. New roots have to sprout from the trunk, once the palm has been transplanted. Removing the palm's leaves lessens the strain on its root system. Second, the palm should held upright with lumber braces until it is well established. No nails should be driven in the trunk, however, since all wounds on palm trunks are permanent. A better way to attach the braces to the palm is to strap short lengths of lumber next to the trunk with heavy gauge wire; then nail the support braces to the short pieces of lumber. Transplanted palms require conscientious watering and only very light fertilization during their first growing season. In most of the Southeast, transplants should only be attempted during late spring or early summer.

Landscape use: The best palm tree for southeastern coastal plantings, the palmetto palm is a symbol of the Sea Islands landscape. It has been used in all sorts of landscape styles and situations. The Palmetto naturally tends to have a loose, wild look that can make it look somewhat out of place in formal settings. Its appearance can be sharpened up by watering during dry spells, fertilizing, and pruning off dead leaves.

Other notes: The state tree of South Carolina and Florida. Along the coast of South Carolina and Georgia, its leaves are used to make some decorative basketry in a style that originated in West Africa.

Related species: There are roughly 20 species of the genus *Sabal*, most of them native to areas around the Caribbean and the Gulf of Mexico. Many of these species have been grown successfully in the warmer parts of the Southeast. Aside from our southeastern native species, another Sabal species that is often grown in our area is *Sabal mexicana* or *Sabal texana*. *Sabal mexicana* is native to coastal areas of Mexico and Texas near the mouth of the Rio Grande. It greatly resembles *Sabal palmetto*, though it isn't quite as cold-hardy.

Palmetto (transplant)
Apison, Tennessee

Mediterranean Fan Palm

Scientific name: *Chamaerops humilis*

Description: A small, clumping fan palm with stiff leaves and spiny leaf stems.

Native habitat: Rocky, coastal areas of the western Mediterranean. The only palm native to the European mainland.

Size: Five feet is common in the Southeast; reaches 20 feet in California. Growth rate is slow.

Cold hardiness: Reliable in Zone 8; fairly reliable in a very sheltered site in Zone 7, but best with some winter protection below about 15°F; cold-hardiness roughly on par with plants such as Oleander. Does not like cold, wet winters.

Culture: Plant in full sun to light shade. Needs well-drained soil and thrives on limestone. Once this palm is established it is extremely drought-tolerant and really only needs water during severe droughts.

Mediterranean Fan Palm
Brookgreen Gardens, South Carolina

Landscape use: A beautiful specimen palm and a common feature of Mediterranean gardens. Especially attractive in courtyard gardens. However, in Zone 7 *Trachycarpus wagnerianus* gives a similar effect and is more reliably cold-hardy.

Other notes: This is another species that grows well in the warmer parts of England, Ireland, and the Pacific Northwest. The Spanish name for this palm is *palmito,* a name which Spanish explorers also applied to our native southeastern palms. Eventually *palmito* was anglicized to *palmetto*.

Mediterranean Fan Palm fruit
Augusta, Georgia

Jelly Palm, Pindo Palm

Scientific name: *Butia capitata*

Description: A feather palm with gray-green to blue-green fronds 6 to 8 feet long and a massive trunk up to a foot and a half across. The only feather palm commonly grown in the Southeast.

Native habitat: Native to Uruguay and southern Brazil, in areas that have warm summers and occasional frost in winter.

Size: Can reach 30 feet, but 10 to 20 feet is more common. Growth rate is slow to moderate.

Cold hardiness: Cold-hardy throughout Zone 8, although it may be injured in cold winters in Zone 8a. Not quite as hardy as the Palmetto Palm. In Zone 7 and north, winter protection is recommended below 15°F. During cold spells, some jelly palm owners tie up the soft, flexible leaves and cover them with burlap or some other material to prevent cold damage to the leaves.

Culture: Best growth is in full sun and well-drained soil. Reasonably drought hardy once established.

Jelly Palm
Augusta, Georgia

Landscape use: This is the most commonly cultivated exotic palm in the Southeast, and in Zone 8 it is used in many landscape situations. Because of its showy appearance, its most natural use is as a single specimen. Tolerates salt spray.

Jelly Palm fruit
Mobile, Alabama

Other notes: Jelly palm is a prolific bloomer and bearer of seeds, from which jelly is sometimes made. There is a lot of variation in leaf color and shape for this particular palm.

Related species: There are about eight other species of *Butia* that should be more widely tried in the Southeast. The jelly palm is also closely related to the Chilean wine palm (described below) and the subtropical queen palms (*Syagrus* spp.)

Saw Palmetto, Scrub Palm

Scientific name: *Serenoa repens*

Description: A low, spreading fan palm with stiff leaves and spiny leaf stems. Its trunks usually creep along the ground, rooting and branching as they grow. In coastal regions, it is an aggressive spreader. The only native palm with spiny leaf stems. Plants in our area have yellow-green leaves. Some plants from southeastern Florida have blue-green or silvery leaves. This palm is often confused with *Sabal minor*.

Saw Palmetto
Emanuel County, Georgia

Native habitat: Native to coastal areas of the Southeast and most areas of Florida. Very common and easily visible from major highways near the coast. Usually grows in higher and drier areas than the needle palm and dwarf palmetto. Saw palmetto thrives in areas subject to disturbances such as clear-cutting, fire, or salt spray. Often presents a scrubby appearance due to the effects of one or more of these factors.

Size: The trunks of saw palmetto usually sprawl on the ground and don't get any higher than five feet. Occasionally trunks will grow upright to a height of twenty feet. Vertical growth rate is

slow. Seedling plants from tree forms don't necessarily grow into tree-form plants. The only reliable way of obtaining a tree form plant is to transplant one from the wild.

Saw Palmetto, silver form
Augusta, Georgia

Cold hardiness: Cold-hardy throughout its native Zone 8b and reasonably cold hardy through Zone 8a. Notoriously tender in Zone 7 without winter protection. Unfortunately, the beautiful blue- and silver-leafed forms are less hardy than are green-leafed plants from more northerly populations.

Culture: Best growth is in full sun or very light shade and well-drained soil. Drought-hardy once established. Spreading has to be controlled in coastal areas.

Landscape use: Where it is native, this palm is widely loathed for its spiny habit and for the tendency of saw palmetto colonies to harbor both rodents and poisonous snakes. However, with occasional doses of lime, fertilizer, and irrigation, a small cultivated patch of saw palmetto can make an attractive ground cover or an effective hedge. Tolerant of salt spray.

Other notes: North of Florida, there are only a few colonies of this palm that are any distance from the coast. Seedling plants from these populations should be tested for greater cold hardiness. This palm can be propagated by removing suckers from established plants.

Related species: None.

California Fan Palm

Scientific name: *Washingtonia filifera*

Description: Massive palm with a trunk up to two feet across. Leaves are yellow-green and palmate with spiny stems. Leaves have numerous threads hanging between the leaf segments. If not pruned off, dead leaves persist almost indefinitely.

Native habitat: Native to desert oases in southern California. The native palm of Palm Springs. Commonly planted in California and Florida.

Size: Truly immense. In warm climates plants grow up to 100 feet tall. No plants have been grown to this size (to our knowledge) in the Southeast. Fast growing.

Cold hardiness: The true cold-hardiness of this plant is a matter of considerable debate. In areas that have fairly cold but dry winters, such as El Paso, Texas, and St. George, Utah, the California

Fan Palm is reported to tolerate cold weather down to 0°F or lower. In the Southeast, the California Fan Palm seems to suffer at temperatures less than 20°F. Cold hardiness is enhanced by planting in fast-draining soil. During the winter, leaves are usually discolored by damp cold and frost.

Landscape use: The large size and fast growth rate demand careful siting. Moderate salt tolerance.

Other notes: Probably reliable in Zone 8b, marginal in Zone 8a. Size and growth rate make sheltering of this palm impractical after a few years.

Related species: The Mexican fan palm, *Washingtonia robusta*, is native to Baja California and greatly resembles the California fan palm when young. However, the Mexican Fan Palm has a slender trunk, usually less than one foot across. The Mexican fan palm grows even faster than the California Fan Palm and is not so picky about soil, but it is not as cold-hardy. Though the Mexican fan palm grows reasonably well in zone 8b, a better choice for most of the Southeast would probably be a hybrid of the two species known as *Washingtonia* x *filibusta*.

California Fan Palm
Charleston, South Carolina

Other hardy palms

The list above doesn't begin to exhaust the list of cold-hardy palms, but it does start to exhaust the list of cold-hardy palms that have been extensively tested in the Southeast. Some of the palms listed below seem like good candidates for southeastern landscapes, and most of them have been grown by some of our members. If you do end up trying some of these lesser-known palms in your landscape, please write us and let us know how they've performed for you.

Mexican Fan Palm (grown with protection)
Knoxville, Tennessee

Since some of these palms haven't been grown in the United States long enough to have a common name, we'll list them by their scientific names.

A real standout in terms of cold-hardiness is *Nannorrhops ritchiana*, sometimes known as the Mazari palm. *Nannorrhops ritchiana* is a very slow-growing clumping palm which eventually attains a height of 20 feet in its native environment. It is native to cold desert areas of the Middle East from Pakistan to Saudi Arabia. The hardiness of *Nannorrhops ritchiana* is variable, but some strains of this palm may be as hardy as the native needle palm. It needs lime, very well-drained soil, and full sun.

Another likely clumper is *Trithrinax campestris*, a native of Argentina. *Trithrinax campestris* grows to a mature height of about 6 feet and has stiff, silvery leaves. A dry-climate palm, it may serve as a hardier substitute for the silver-leafed forms of the saw palmetto. Hardiness is unknown, but Zone 7 is a good guess.

A related tree palm is *Trithrinax acanthocoma*, which is native to southern Brazil. *Trithrinax acanthacoma* resembles a windmill palm, only it has stiffer leaves and rings of spines surrounding its trunk. Zone 8 is probably the northern limit for growing this palm without extensive protection. A fair amount of sun and good soil drainage are necessary.

A tree palm that may succeed as far north as Zone 7 is the Chilean wine palm or *Jubaea chilensis*, a native of cool, dry coastal areas of Chile. *Jubaea chilensis* resembles an overgrown jelly palm, ultimately growing as tall as 70 feet with a trunk that can be as large as 5 feet across. Despite its large size as an adult, *Jubaea chilensis is* slow-growing in youth and consequently rather expensive. This palm is rarely grown in Florida and usually has to be obtained from sources in California.

Some other possibilities for Zone 8 include *Brahea armata* (sometimes called *Erythrea armata*) and *Phoenix canariensis*. *Brahea armata* is a blue-leafed desert fan palm from Baja California that grows to about 45 feet high. *Phoenix canariensis*, also known as the Canary Island date palm, is a massive (up to 60 feet by 3 feet), stiff-leafed feather palm native to the Canary Islands. It is commonly planted in Florida and California and occasionally planted in milder areas of zone 8b. A major problem with growing *Phoenix canariensis* in the Southeast is that it is often difficult to obtain a pure-bred *Phoenix canariensis* in the nursery trade. Many plants obtainable in the United States are hybrids of *Phoenix canariensis* with other, reputedly less hardy *Phoenix* species.

Two other possibilities for the milder parts (Zone 8b) of the Southeast are the fan palms *Livistona decipiens* and *Livistona chinensis*. *Livistona chinensis* is native to subtropical areas of China and Taiwan, and is commonly available in nurseries as an indoor plant. In the Southeast, it seems to grow better if given partial shade. *Livistona decipiens* is native to the northeast coast of Australia, and grows better in full sun. Neither of these palms is especially picky about soil, and both will do better with regular irrigation in the summer.

Palms in the Landscape

For most people, the word *palm* conjures up a style of landscaping most often associated with tropical resorts: masses of showy, large-leafed tropical plants swaying in soft breezes. While it is certainly possible to use palms to create a tropical landscape, especially in the warmer parts of the Southeast, there is no rule that limits the use of palms to this one style of landscaping.

Palms have been used in various landscape styles around the world. Many traditional gardens in the British Isles contain windmill palms planted among their beds of rhododendrons, roses and flowering perennials, and traditional gardens in Japan and China often have palms planted among azaleas, camellias, and bamboo. Palms are indispensable to Mediterranean gardens, and a few well-placed palms can give a formal garden a truly Mediterranean feel. And just as non-native palm species can be effective in creating exotic landscapes, our native Southeastern palms can be effective in giving a southeastern garden a distinctive look that sets it apart from a garden in New England or California. So you really don't have to turn your yard into Fantasy Island to grow palms outdoors. Unless of course, you want to.

Whatever your preferred style of gardening, palms have the ability to drastically change the look of your landscape for the better. Even though most palms don't have showy flowers, their large, evergreen leaves are natural attention-getters. A single large, well-grown palm, or a grove of smaller palms can serve as a focal point for even the largest garden. The large size of palm leaves can also work well to change the perceived size of a landscape. A palm or group of palms placed a distance away from the viewer can make a large area seem smaller. Or by skillful placement of a palm or group of palms in a small space, the space can be made to seem much

But why take *our* word for it?

On October 15, 1867, the pioneering American naturalist and Sierra Club founder John Muir encountered his very first *Sabal palmetto* while wandering in the woods near what is now Fernandina Beach, Florida. The sight so moved Muir that he wrote the following passage in his journal, which later became the book *Thousand Mile Walk to the Gulf.*

"...I caught sight of the first palmetto in a grassy place, standing almost alone. A few magnolias were near it, and bald cypresses, but it was not shaded by them. They tell us that plants are perishable, soulless creatures, that only man is immortal, etc., but this, I think, is something that we know very nearly nothing about. Anyhow this palm was indescribably impressive and told me grander things than I ever got from human priest.

"This vegetable has a plain gray shaft, round as a broom-handle, and a crown of varnished channeled leaves. It is a plainer plant than the humblest of Wisconsin oaks; but, whether rocking and rustling in the wind or poised, thoughtful and calm in the sunshine, it has a power of expression not excelled by any plant high or low that I have met in my whole walk thus far."

Present-day visitors to John Muir's house in Martinez, California, are greeted by a pair of large *Washingtonia filifera* palms planted on both sides of the front door.

What better endorsement could any plant ask for? Go out and start planting those palms!

larger. Shopping malls, hotels, and bars discovered this fact a long time ago.

One idea that may sound nice, but is difficult to carry off successfully is to plant a row of palm trees of a uniform height in a straight line, or in any other formal, symmetrical pattern. Since palms are almost always propagated by seed, and not by vegetative methods (rooting, grafting, etc.), any one of a given group of palms will usually grow at different growth rates, according to each plant's predisposition to grow. And in our area, some palms always turn out to be a little more or less susceptible to cold damage than the almost identical palms growing right next to them. In a few years, the straight line of palm trees will be growing at different heights, and your neighbors will know that you fought nature and lost.

A better way of planting palms is to use a single specimen palm or an informal group of three or more palms. Or, instead of planting a row of palm trees, consider using a row of low-growing palms such as the needle palm or dwarf palmetto.

Where to Get More Information

The Southeastern Palm Society, founded in 1992, is a friendly and respected source of advice on how to grow palms and other subtropical plants in the southeastern United States. A non-profit organization, SPS organizes quarterly meetings at some of the most interesting public and private gardens in the Southeast, publishes a quarterly journal, *Southeastern Palms*, and the specialty books *Hardy Palms for the Southeast* and *Hardy Citrus for the Southeast*. Membership is open to all. SPS is the north-of-Florida chapter of the International Palm Society. Visit SPS online at www.sepalms.org.

Or visit the International Palm Society online at www.palms.org. Membership includes a subscription to the quarterly journal, *Palms*. The articles in *Palms* reflect the diverse interests of palm enthusiasts around the world.

Many good books on growing palms are available. If we may be forgiven for partiality, the Southeastern Palm Society's book, *Hardy Palms for the Southeast*, is recommended as the only book we know of that focuses exclusively on growing palms in the Southeast north of Florida. Completed in 2007, *Hardy Palms for the Southeast* is an update and major expansion of *The Palm Reade*r. It benefits from an additional 13 years of the collective palm-growing experience by SPS members and contains 140 pages, 69 color photos, and a custom zone map. All proceeds from the book benefit the Southeastern Palm Society. To obtain a copy, visit www.sepalms.org online.