

## **Palms 101**

Hawaii Island Palm Society (HIPS) has prepared this information guide that covers a variety of basic palm information for members that are new to the planting and care of palms. We have tried to keep the level of scientific terms to a minimum although you will encounter a few, but don't be scared a little knowledge will go a long way in your enjoyment of your palms in your garden.

### **About Palms**

Experts in Taxonomy (Biology - the science dealing with the description, identification, naming, and classification of organisms) have stated that there are about 2500 different species of palms in the world. These species are classified into 187 families. The Big Island is extremely unique to have almost 1000 of these species in gardens around the island. So if you see a picture of a palm you like the chances are you might be able to find it here to plant.

### **Why are the names of palms so difficult?**

This is a great frustration to beginning palm gardeners when they are around growers and experience palm people discussing palms. There are a few palms that have common names, like King, Queen, Foxtail, Christmas, and Sealing Wax but because there are so many varieties it is impossible to give common names to palms that are used all the same way around the world. When you go to buy a palm having the biological name will benefit you greatly with Nurserymen. There are a couple of excellent books that will help you learn the names of palms, *Genera Palmarum* by Dransfield/Uhl and *An Encyclopedia of Cultivated Palms* by Robert Lee Raffle, Paul Craft and Scott Zona. Don't worry if you can't pronounce them correctly at first, you'll get the hang of it after a while.

### **Where do palms grow?**

Palms are native to every continent in the world except Antarctica. They can be found in deserts, fresh and salt water swamps, grasslands, coastal plains and rain forests. Some palms can even tolerate freezing temperatures for a short period of time, so here on the island no matter where you live you can find a palm that will grow well in your garden.

### **Palm facts**

They can be very small as a ground cover.

They can be very tall (over 200 feet)

They can be a single trunk

They can have multiple trunks (clumping)

They all have flowers generally not larger than 1" in diameter but normally smaller and are on a cluster (called Inflorescences). One type of palm has the largest flower cluster in the world.

The Fruit (seeds) comes from the female flower and can be as small as a ¼ inch to the world’s largest seed which can weigh as much as 50 lbs. (Lodoicea Maldivica) sometimes referred to as the “double coconut”.

Some palms flower once and then die (A consideration when you plant that type)

One type of palm (Raffia) has the longest leaf in plant kingdom (80 feet)

Trunk diameters can range from ½” to 6’

Some palms have stilt roots that can grow from the trunk of the palm as large as 6-8 feet above the ground. (Careful were you plant this type)

These are just a few of the interesting facts about palms which can help you choose a palm for your garden and win a few trivia bets over a beer.

### **What palms should I plant?**

This can be one of the most interesting challenges in your palm garden. Depending on the size of your property the choices are endless for what you can plant. Small palms range in size from 2-10 feet, medium palms from 10-50 feet and large palms can get over 100 feet. The leaves can be very fine (pinnate) or fan like (palmate), leaf stems can be smooth or have spines, the sheath (the part of the leaf that grasps the trunk) forms a crown at the top of some palms and can show a variety of colors from white, red, purple blue, and all shades of green. Some palms have only a single trunk and others can have 20 or more trunks. Some people just plant one type of genus (same family) or some people like palms that have all fan like leafs, some like the colorful crown shafts, with 2500 species it can be a difficult but a fun choice. The real answer is plant what you like!

One of the most common palms you see planted and is mistakenly call the “areca palm” is a clumping (produces many trunks) palm that is used as a screen or hedge, it real name is *Dyopsis Lutescens*. Other palms that are quite common are:

<u>Scientific Names</u>	<u>Pronunciation of Scientific Names</u>	<u>Common Names</u>
Archontophoenix alexandrae	Ahr-kont'-o-FEE-nix a-lek-ZAN-dree	Alexander, King Palm
Cyrtostachys renda	Seer-toe-STAIK-iss REN-da	Sealing Wax Palm
Dyopsis leptochelios	DIP-sis lep-toe-KY-los	Teddy Bear Palm
Adonidia merrillii	A-do-nid-ia mer-RIL-lee-eye	Manila Palm
Dictyosperma album	Dik'-tee-o-SPURM-a AL-bum	Princess, Hurricane Palm
Caryota urens	Kar-ee-O-ta YOO-renz	Fishtail Palm
Wodyetia bifurcate	Wod-YET-ee-a by-foor-KHT-a	Foxtail Palm

Dypsis decaryi	DIP-sis de-KAHR-ee-eye	Triangle Palm
Ptychosperma macarthurii	Ty-ko-SRUM-a mak-AHRTH-'-ree-eye	MacArthur Palm
Roystonea regia	Roy-STON-ee-a REE-jee-a	Cuban Royal Palm
Pritchardia martii	Prit-CHAHRD-ee-a MAHRT-ee-eye	Loulu Palm
Hyophorbe verschaffeltii	Hy-o-FOR-bee ver-sha-FELT-tee-eye	Spindle Palm
Hyophorbe lagenicaulis	Hy-o-FOR-BEE lag'-e-ni-KAW-lis	Bottle Palm
Latania loddigesii	La-TAN-ee-a lo-di-GAI-zee-eye	Blue Latan

HIPS maintains the palm garden at the Pana'ewa Zoo and is a great place to visit to get an idea of what the different palms look like. Speak with other member's in your area to get their experience with the type of palm you want to plant

### **Do palms need special Light Requirements?**

The general answer is no for the majority of palms. But there are many genus (family) of palms that prefer certain types of light. Some palms need shade as their native habitat was a deep canopied forest and direct sun will burn their leaf. Other need direct sun to grow their best and others need a mixture of both, shade when small and sun when tall.

### **What about temperature?**

As most palms are from tropical and sub-tropical regions they do very well on the Big Island temperature wise. Those people that live in areas like Volcano or Waimea might find that some palms don't like the cool winters and other palms will flourish. If you check into the palms origin it will give you a hint for their growing success.

### **Are there special soil requirements for planting?**

Hawaiian soil is made basically from the weathering of lava rock and is generally acidic which palms seem to like. The soil contains very little or no clay and thus it drain's very quickly and does not hold much water. Depending on your location you may have solid rock or minimal soil to plant your palms in. This is not a problem. Be prepared to dig a hole that is twice the width of the pot that the palm is in. Make sure that the bottom of the trunk is flush with the finished ground level. Palms do not like to have their trunks covered with soil. Fill in around the root ball with loose soil do not pack it in as the loose soil allows for the new roots to travel easily through it. It will take anywhere from 3 -120 days for the new roots to develop. Some people put a little super phosphate (0-45-0) in the bottom of the hole to stimulate root growth and a special palm fertilizer on the top. Some people just plant the palm without the addition of any fertilizer. It's your choice and there are no hard fast rules. You do want to make sure that the hole you dig drains as the majority of palms don't like their roots to be wet unless they are a variety that originate in swampy, tidal or lake environments.

## **Moisture requirements**

Depending on where you live on the island you may get only 10" or 100" or more of rain each year. Palms do not have tap roots, so their root structure is very shallow and they require a steady application of water to remain healthy. This isn't a problem in general on the east side of the island but in certain parts of the west side irrigation may be needed to keep your palms happy. Again study where your palm's original habitat was and it will give you clues to its moisture needs.

## **What fertilizer should I use?**

The majority of the soil on the island is crushed lava. This is an ideal medium for providing good drainage but it is not an outstanding holder of nutrients. Research has indicated that palms benefit from fertilizer that is in the 3-1-3 ratio of nitrogen, phosphorus and potassium. In addition because our soil in general lacks organic matter a supplement of magnesium, calcium and manganese is beneficial to most palms. Some fertilizers have a slow release formula that works in relationship to either the temperature or the amount of water it is exposed to. These generally are more expensive than the standard regular release types. Some gardeners like to apply mulch around the palms to keep the weeds down, as the mulch breaks down it also supplies nutrients to the soil so you get a double benefit. When you apply the fertilizer spread it at the drip line of the fronds, these are the new roots and they take up the nourishment faster than the old roots at the base of the palm.

Here are a couple of things to consider when fertilizing;

- Never fertilize on dry soil as it can lead to plant burn and death. Keep the soil moist.
- Don't over-fertilize as this can lead to plant injury. Follow the manufacturer's directions. If the directions lead to problems, use less
- Don't throw granular fertilizer down the crown of the plant.
- Don't throw all the fertilizer in one pile at the base of the plant. Scatter it.
- Don't throw the fertilizer against the trunk of the plant in a big pile as this can lead to necrosis or scarring of the trunk.
- Buy a fertilizer with supplemental magnesium and calcium.

You can purchase fertilizer from a variety of stores around the island including BEI- 430 Kekuaaoa St, Hilo and 74-592 Hale Makai Pl Ste A Kailua Kona, Garden Exchange - 300 Keawe Street, Hilo, Miranda Country Store - .845 Kanoelehua Ave, Hilo and Hawaii Grower Products - 73-4098 Hulikoa Drive, Kailua-Kona. There are also special supplies stores that carry their own special blends. Ask a palm member's in your area where they buy their fertilizer.

### **How often should I fertilize?**

Some people feed their palms on a regular schedule every quarter, some every six months and some not at all. This is up to you. You may just want to feed your palms when they show a need for food, they will tell you when by how they look.

### **Should I prune my palms?**

Pruning Palms is far simpler than pruning other woody ornamentals, matter of fact the majority of palms pruned themselves. The best course of action is to wait until the entire leaf turns brown if you must trim your palm. As the older leaf turns brown it translocate nutrients to the newer leaves. By cutting off leaves that still have some green on them you are robbing the palm of some nutrients as the green leaf can still photosynthesize.

### **How close should I plant my palms?**

The answer is really driven by the adult size of the palm or if you want to feature a special palm someway in your garden. A lot of gardeners like to plant 3 of the same palms in a grouping. Large palms can have leaves and petioles that are 20 feet long so one palm will span 40 feet tip to tip, You need to take into consideration the total span of your palms when spacing them. In general medium to large palms should be spaced about every 10 feet. Small palms a lot closer and if you want to create a hedge with a clumping palm they can be spaced very close together.

### **How do I start palms from Seeds?**

Starting your own palms from seeds can be very rewarding and fun. There are a variety of techniques that you can choose from. First make sure that the seeds are ripe, seed colors change from green to red, purple, black, white or even brown depending on the species. First clean the seeds by soaking them in water for 48 hours. This will soften the outer shell (endocarp) which you will be able to rub off after soaking. Place the cleaned seeds back into clean water for another 24 hours, this will give them a final clean. Seeds that float to the surface are infertile and should be discarded. Place the seeds in a container of at least 4", some seeds will require a larger pot because they send off a seedling root that goes deep first before sending up a stem these will need to be at least 12" deep. A soil mixture of peat moss and perlite mixed 50/50 is a good choice, but even just straight soil can work. The secret is to keep the seed moist but not wet. Keep the seeds warm (at least 80 degrees) and depending on the type of palm can germinate in 30 days or some can take as long 9 months. Palm people will tell you that many times they think the seeds will not sprout and throw them in the soil pile and before long some seedling is growing out of the pile and they have no idea what it is. Let the seedling grow in its pot until the roots grow thru the bottom before up potting.

### **Do palms attract insects?**

The short answer is yes. Some will not hurt the palm (ants) others can be quite a nuisance. Typical insect problems are scale, mealy bugs, aphids, caterpillars and spider mites just to name a few. Each type of insect will require a special insecticide which your local garden store can tell you what to use. If the palm

is not treated for some of these insects it can die so give your palms a daily inspection. Most good palm books will have a section (description and pictures) on what these insects do to the palm so you will have an idea of what you are up against.

### **Do palms get diseases?**

Some diseases will only infect certain types of palms and others can infect all types. Most diseases are either a fungus or a mold. If not identified early they will kill the palm and in some cases certain diseases may kill the palm as there is no known treatment. A few of these wonderful organisms are Lethal yellowing, Fusarium wilt, Ganoderma rotti, Leaf spot fungi, Sooty mold and Phytophthora bud rot. HIPS website has a link to very excellent website called " the Plant Doctor" where you can look a variety of pictures or send him a picture of your problem and he will help identify what the palm has contracted.

### **What are some great Palm books?**

HIPS maintains an excellent library of palm books that you can check out free of charge. This is a great opportunity to preview many books before you decide on which one you would want to purchase for your home library. One book "The Encyclopedia of Cultivated Palms" is probably the most common one found in almost all palm gardeners book shelf. It contains over 600 color pictures as well as descriptions of the palms. Many of the photographs are from HIPS members palm gardens.

### **Where can I buy palms?**

You certainly will find palms at Home depot, Lowes, and some garden stores but your best bet is to buy from growers who are members of HIPS. The growers can tell you all about the palms they have and what will work best for you in your area. They are as follows:

- Jerry Anderson - 965-6382 - [jdapalms@cox.net](mailto:jdapalms@cox.net)
- Bill Austin - 345-6158 - [happyjoyousfreebill1@yahoo.com](mailto:happyjoyousfreebill1@yahoo.com)
- Jan Anderson - Kapoho Kai Nursery - 965-8839 - [tidepool@hawaiiantel.net](mailto:tidepool@hawaiiantel.net)
- Jules Gervais - 959-7050 - [soontaree@hawaiiantel.net](mailto:soontaree@hawaiiantel.net)
- Jeff Marcus - Floribunda Palms & Exotics - 968-6921 - [jmarcus@interpac.net](mailto:jmarcus@interpac.net)
- Serina Roush - Kauai Seascapes Nursery, Inc. - 639-1760 [roush@kauaiseascapesnursery.com](mailto:roush@kauaiseascapesnursery.com)
- Garrett Web - Kalaoa Gardens, LLC - 325-6251 - [palmsinkona@yahoo.com](mailto:palmsinkona@yahoo.com)