

## ***East Hawai'i Island Outdoor Circle***

**PICK 2 VARIETIES. TELL US YOUR CHOICES. WE WILL PLACE COLOR CODED CARDS ON YOUR WINDSHIELD THAT INDICATE WHICH TREES YOU HAVE PICKED. DRIVE FORWARD TO YOUR COLOR SPOT WHEN INSTRUCTED TO DO SO.**

**KUKUI - OHIA - MORINGA- ULU (HAWAIIAN OR MAAFALA) - CACAO - TAHITIAN LIME- LEMON (MEYER OR EUREKA) - ORANGE (VALENCIA OR NAVEL) - JABOTICABA - CINNAMON - CLOVE – COFFEE**

**(All Citrus grow well from sea level to Volcano)**

### **How To Plant A Fruit Tree**

For a tree in a three-gallon grow bag, dig a hole approximately 18 inches wide and 24 inches deep. Make sure the hole has adequate water drainage. Adjust hole size, and fertilizer suggestions below accordingly for larger trees. • Combine and thoroughly mix the soil you just dug out of the hole with two to three pounds of well-composted manure and about a cup of dolomite lime. Up to one third of your soil mixture can be composed of black cinder or Perlite to help with drainage. Organic matter such as macadamia husks and shells, green leafy material, wood chips, or compost may be added to your soil mix. • Spread one cup of treble superphosphate (0-45-0) or super-phosphate (0-30-0) in the bottom of the hole and cover with approximately four to six inches of the soil mixture you made in step two. • Gently begin to remove the bag or pot from the root ball by cutting off the bottom of the bag or pot and setting the tree into the hole. Place about 1/4 of the mixture around the plant and position the tree so it is straight up. Carefully slit the bag down the side and remove completely, discarding the bag or pot. • Continue to fill the hole with the soil mixture until the mixture reaches the level where the soil was surrounding the tree when in the bag or pot. • Water thoroughly! •Mulching is very beneficial. It will reduce evaporation and weed growth, build healthy soil structure, and hold fertilizer around the root zone longer. Composted plant material such as leaves, twigs or small branches can be used as mulch. To mulch your trees, spread the mulch in a 4-foot diameter circle around the tree, starting approximately four to six inches from the trunk and working outward. The mulch layer can cover the soil completely and can be applied again every few months.

### **How To Fertilize**

Top dress with fertilizer at planting and every 8 to 12 weeks with a type that has a 3:1:2 ratio of Nitrogen (N), Phosphate (P) and Potassium (K) for optimal growth of the tree for the first year or two. •Fertilizer should be applied in a wide circle around the tree, starting at the drip line and extending out. The idea is to encourage the roots to grow away from the trunk, become anchored and seek nutrients. The canopy of the tree generally follows the root growth. •When trees reach fruiting size change the fertilizer to a type with a ratio of 1:1:3 N:P:K. This will slow leaf and branch growth and encourage flowering, fruit set and fruit development. •Continue to mulch with composted or fresh leafy plant material to provide humus, the organic component of soil composed of decomposing plant material in the soil by microorganisms. Humus works with the soil to hold nutrients around the tree longer. Mulch will keep soil temperature lower and discourages weeds. •Dolomite (agricultural) lime, or Calcium can be important to apply to some of your fruit trees, especially avocados. Having your soil tested is good practice to ensure healthy growth. Minor and trace nutrients should also be applied annually or semi-annually, depending on rainfall, species and location. Some fertilizer formulations may contain minor nutrients along with N-P-K, such as "palm-citrus special," and others.

<https://www.plantihawaii.com/tree-care>

**Cinnamon** - Grows well from 500' to 3,000' in elevation. The inner bark of the smaller branches is the part used to make the spice. Cinnamon can be grown easily in Hawaii with adequate rainfall. Cinnamon trees are very sensitive to herbicide, mulch is a better weed control. Prune to encourage a bushy tree that is easy to harvest. Cinnamon is a rich source of vitamin K, Iron and Calcium.

**Clove** - Grows well from 500' to 3,000' in elevation. Cloves, believed to be a native of Indonesia, are beautiful and graceful trees, with stellar pink and yellow new leaves all year round. Cloves are slow-growing trees that do best on deep volcanic soils with abundant rainfall and good drainage, they can be grown at most elevations throughout the state. The trees and leaves are very fragrant and the developing flower bud is dried and used as the spice. Cloves are used whole and ground in a variety of sweet and savory applications as well as in tinctures and cosmetic applications.

**Coffee** - Grows well from 500' to 3,000' in elevation. Coffee is native to tropical Africa. Hawaii's coffee is considered by many to have the finest flavor in the world due to the rich volcanic soils and optimal climate. Coffee is a dark green, small tree, growing to 15 feet unpruned. Many commercial trees are kept at half that height. All 'Kona Coffee' is C. Arabica. There is a dwarf C. Arabica called 'Cattura'. It is a highly productive tree with high quality beans. There is also a 'Coffee Liberica,' which is a large tree with large leaves, flowers, and berries, and has been used to make instant coffee. Coffee is grown in most Hawaii climates. The trees require regular fertilization.

**Jaboticaba** - Grows well from Sea Level to 4,000' in elevation. Can grow to 40', but more often 20'. Tree prefers deep, fertile, moist well-drained soil (pH 5.0-7.0) full sun or partial shade. Can tolerate sandy or clay soil, various climates, wind, rain, flooding and full shade. It does not like salt air, dry conditions and excessive heat and humidity.

**'Ulu** - 'Ulu is best when grown between 500-1500' elevation, but as we know, grows down to sea level as well. **Hawaiian 'ulu** is seedless, dense, and firm with starchy texture, making it ideal for fries, chips and au gratin dishes or for cooking the traditional way: roasted in the fire. **Ma'afala 'ulu** is smaller and less dense than it's Hawaiian cousin, resulting in a lighter option that's ideal for mashes, patties and blended dishes.

**'ULU PLANTING TIPS:** Dig a hole, the same depth of the container and twice as wide as the container. •Add a small amount of slow-release fertilizer, such as 8–8–8 - slow release fertilizer, to the bottom of the hole and cover with soil. •To prevent injury to the delicate root system, carefully cut off the container rather than pulling the plant out. Place the breadfruit tree in the hole, add soil no higher than the level of the plant in the pot, top dress with compost, and water well. •Mulching young plants is beneficial by helping keep the soil moist and adding a steady supply of nutrients. It also helps control weeds around the root system. •Use of herbicides to control weeds around the base of the tree can damage the tree if it comes in contact with the surface roots or young trunk. Keep trees mulched. •Provide a complete fertilizer at the beginning and end of the fruiting season to maintain the health and vigor of trees, especially trees that are 10 or more years old.

***(Continued on back)***

## PLANTING TIPS Cont'd

Young trees can be pruned and shaped as they grow to keep the tree to a convenient size for harvesting and for the space where they are planted. Consult a professional arborist about topping large mature trees. Young plants prefer partial shade. It is best to plant at the onset of the rainy season, but if the weather is dry, water as needed for the first 1–3 months of establishment.

<https://hawaiihomegrown.net/reports/250-tips-on-growing-and-harvesting-breadfruit>

**Moringa** - Grows well sea level to Volcano. Moringa prefers well-drained sandy or loam soil with a neutral pH level. Though it tolerates clay soil, it cannot be water-logged. Follow similar instructions for planting citrus and 'ulu. Established plants required little care. After planting, apply a general household plant fertilizer and water well. It is important to keep the soil moist but not overly wet. You do not want to drown or rot the seeds or cuttings. Keep the planting area free of weeds and rinse off any pests that you find on the growing tree using a water hose. As the tree matures, trim off older branches to encourage fruiting. First year flowers should be removed as they bloom to encourage fruiting in the following years. Since this is a fast-growing tree, annual pruning to a shrub form will help keep its growth under control. You can also cut the tree to about 3 or 4 feet above the ground.

All parts are used for food or medicine in various parts of the world. Seeds are eaten in some parts like peanuts. Leaves are commonly used for salads and have a very high nutrient value, packed with vitamins and antioxidants. Gram for gram, Moringa can have three times the potassium you would find in a banana, four times the vitamin A found in a carrot, and seven times the vitamin C found in an orange. Moringa is also rich in minerals, vitamins, essential amino acids, phytochemicals, vegetable proteins, antioxidants, anti-inflammatory agents, and carbohydrates. Once mature, fresh Moringa, leaves from your tree make a delicious addition to your salad. The leaves are also great for making tea, as well as an ingredient in a variety of chicken, meat and vegetable dishes. Young leaves and tender growing tips eaten as cooked greens, as a spinach replacement, baby food, in curries, stir fries, soups or seasoning. Flowers rich in protein and cooked as a vegetable or as a tea. Pods taste a bit like asparagus & eaten boiled, steamed and also in curries, soups sauces or pickled. Young peas, incl. wings and white interior edible cooked like beans or roasted. The bitter, gluey, coating can be removed by blanching and discarding the water or washing in strainer. Mature dry seeds and taproots can be toxic.

<https://www.gardeningknowhow.com/ornamental/trees/moringa/about-moringa-trees.htm>

<https://moringafarms.com/growing-moringa/>

**Cacao** - Cacao prefers lower elevations below 2000'. Cacao needs a soil containing coarse particles and with a reasonable quantity of nutrients, to a depth of 1.5 meters (5' feet) to allow the development of a good root system. Below that level it is desirable not to have impermeable material, so that excess water can drain away. Cocoa will withstand waterlogging for short periods, but excess water should not linger. The cocoa tree is sensitive to a lack of water, so the soil must have both water retention properties and good drainage.

Variations in the yield of cocoa trees from year to year are affected more by rainfall than by any other climatic factor. Trees are very sensitive to a soil water deficiency. Rainfall should be plentiful.

<https://www.icco.org/about-cocoa/growing-cocoa.html>

**Ohia** - Ohia trees will become unhealthy if the soil they are planted in becomes saturated and waterlogged. To avoid this problem, plant your Ohia in a soil with good drainage. The soil should also be rich in organic material, which will nourish the growing Ohia tree and keep it healthy. Dig a hole that is twice as wide as the root ball. The Ohia roots will have sufficient room to expand in a hole of this size. Make the hole roughly the same depth as the root ball, so that the trunk of the seedling will not be buried. Plan to water your Ohia tree at least once a week, using water from a household hose. 2-3 Hours after watering, make sure that the soil is draining well. You should not see any puddles around the base of the Ohia tree, and the soil should be damp but not saturated. Once planted it should be watered **daily for up to 3-4 months** in well drained soil. After that once every 2-3 days is sufficient unless you live in a very dry place or on the beach. In order to keep the tree healthy and encourage its growth, you can also apply a fertilizer. Purchase an 8-8-8 or 13-13-13 fertilizer and apply it to the base of the Ohia tree once every six months.

Ohia trees need near-constant sunlight during daylight hours, and so should be planted in an open space that affords plenty of light. Do not plant your Ohia tree near a large wall or building that will block the sun. Similarly, do not plant the Ohia near a larger tree or bush whose foliage will prevent sun from reaching the Ohia. Plant the tree at least 10 feet away from your doors, garage door, or windows that you enjoy leaving open because the tree will attract bees, wasps, and other insects. Ohia trees grow quickly and will become root-bound if left in a pot for too long. Put the plant in soil in the ground as soon as it grows large to about 1 foot in height. Young Ohia trees may prefer partial sun (about 6 hours of sun exposure a day), until they reach maturity. If your Ohia is in the ground, you won't be able to change its sun exposure as it matures because it dislikes root disturbance.

<https://www.wikihow.com/Grow-an-Ohia-Tree>

**Kukui** - Grows well from sea level to 2,300 ft with rainfall of 25–170 in. Subtropical dry to wet and tropical very dry to wet forest climates. **Growth rate:** Moderately fast growing in favorable conditions, growing 1.6–5 ft per year. **Soil drainage:** It requires free drainage. **Soil acidity:** It grows in lightly acidic to alkaline soils (pH 5–8). The tree prefers light and medium texture soils (sands, sandy loams, loams, and sandy clay loams). It favors well drained, moist soils. Kukui tolerates a modest amount of salt spray and is occasionally found growing near the coast. It tolerates both steady and storm winds and makes a suitable windbreak tree, especially in a multi-row windbreak. The tree can grow well even on relatively poor sites, provided ample soil moisture is available, particularly during establishment.

Hundreds of flowers, small and ivory to white in color are hardly even noticed but the nut that develops is prized for its high oil content and its ability to burn for about 15 minutes giving it the nickname candlenut. Candlenut trees thrive in moist tropical regions. Considered highly ornamental it can reach 65 feet or more at maturity and have wide spreading branches.

If you plant this tree in a brightly lit area you may experience leaf burn. It is best to acclimate this plant to its environment by keeping it outside and slowly moving it into a sunny area over a week or two to avoid stress before planting.

Remember try to stay away from arid or wet, mucky soils.

To help establish your new Candlenut Tree, fertilize sparingly ten inches away from the base, tri-annually with a slow time released product. Unfertilized they will tend to grow at a slower pace. Note: The heavy salts in cheaper fertilizers will damage the roots and possibly kill the plant. Its best to use a brand you know and trust.

[https://www.doc-developpement-durable.org/file/Arbres-Bois-de-Rapport-Reforestation/FICHES\\_ARBRES/Arbres-non-classes/Aleurites-kukui.pdf](https://www.doc-developpement-durable.org/file/Arbres-Bois-de-Rapport-Reforestation/FICHES_ARBRES/Arbres-non-classes/Aleurites-kukui.pdf)

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[www.easthawaiioutdoorcircle.org](http://www.easthawaiioutdoorcircle.org)