

How to Grow a Complete Diet with Permaculture Principles: Tropical Subsistence Gardening. 24 part class series

Part 13 of 24 **Staple Tree Crops (carb/protein mix): Peach Palm, Breadnut, Jackfruit & Malabar Chestnut.**

Acknowledgements: A special thanks to Hawaiian Sanctuary, County of Hawaii Research and Development and all others involved to make these classes a reality! We are still looking for support to complete and enhance this amazing FREE program. <http://hawaiiansanctuary.com/donate>

Introduction: Staple crops make up the base of our diet, supplying a large percentage of our energy and nutrient needs. In previous classes we covered the staple tree crops ulu, and green bananas, and the staple root crops: taro, sweet potato, uhi, and cassava. Here are four more important staple tree crops.

Peach Palm:

Anatomy: Emergent clumping palm to 70+ ft., dense fibrous root system.

Niche in a Food Forest: Full sun, overstory tree, can support climbing vines.

Varieties: Spiny trunked and spineless varieties exist. Many varieties with different colors: yellow to red, and different fruit and seed sizes. John Mood selected variety on island selected for higher oil content and thin edible skin. Paradise plants may have a Costa Rican variety for sale.

Propagation: From seed, long germination time up to 6 months, or from side shoots.

Planting: 20 - 30 ft apart or more.

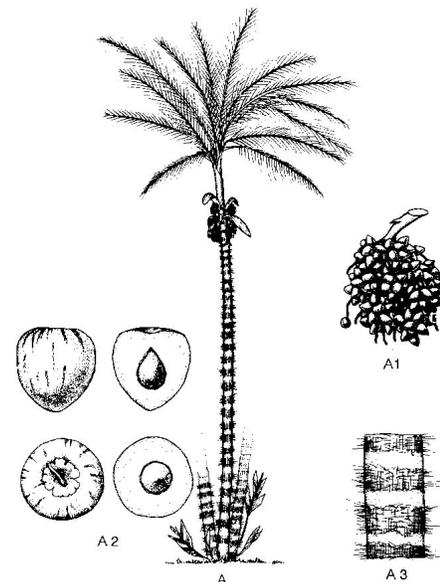
Cultivation: Likes fertile soil, so mulch deeply. Ideally under 900m elevation but may produce up to 1800m. May produce better with multiple plants.

Diseases / Pest Control: Needs pig protection when young.

Harvest: 3 - 7 years till first harvest can bear for 60+ years, very productive.

Usage: Steam or boil 1-2 hrs then peel comes off easily, or peel first

Storage & Preservation: Can be made into flour for storage, or frozen.



Breadnut:

Anatomy: Large tree, looks like ulu, closely related, 30ft wide by 60ft tall.

Niche in a Food Forest: Overstory tree, can support climbing vines such as uhi or edible air potato, vanilla, or black pepper. Taro or turmeric may be grown in the understory.

Varieties: May cross with seeded breadfruit varieties.

Propagation: Usually from seed, or as ulu, root shoots, cuttings, etc.

Planting: 30 ft apart

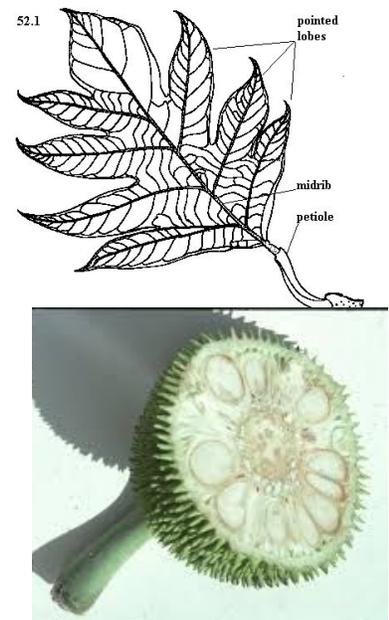
Cultivation: Likes good drainage & fertile soils. Best below 2000ft. Can grow to 5000ft

Diseases / Pest Control: Trunk may need pig protection.

Harvest: 3-5 years

Usage: Ripe fruit can be harvested or let to fall, seeds are separated from scant inedible pulp and boiled for 1 hour. After boiling peel off tough seed coat.

Storage & Preservation: Use soon after harvesting, within a week or seeds will dry out.



Jackfruit:

Anatomy: Large dense tree 30ft wide & 80ft tall. Prune to keep harvestable!

Niche in a Food Forest: Overstory, needs full sun or will be hard to keep pruned low

Varieties: “Black Gold” & “Ziman Pink” are two grafted varieties commonly available here. Jackfruit are not true to seed so grafting is highly recommended to ensure quality fruit.

Propagation: From seed then approach graft when seedling is pencil diameter.

Planting: 30 feet apart.

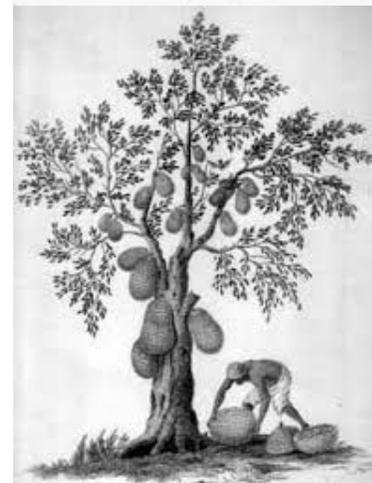
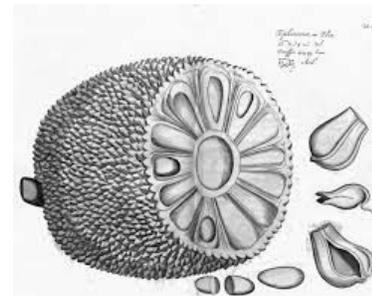
Cultivation: Benefits from mulch and water, widely adapted. To 5000 feet elevation.

Diseases / Pest Control: May need protection from feral pigs which sometimes can girdle trees by chewing off bark, use wire fencing several feet around trunk. Few disease problems in Hawaii. Rats will eat fruit if not harvested promptly.

Harvest: After 3-5 years. Ripeness is indicated by 1. Tiles widen 2. Color changes more yellow 3. Becomes aromatic (has strong smell) 4. Slightly soft to the touch. Ropes can be used to help lower very large fruit Can be extremely prolific.

Usage: Ripe fruit eaten raw is very sweet. Seeds boiled 45-60 min are good source of carbs and protein and can be used much like a bean, in humus, stews, curries etc.

Storage & Preservation: Ripe fruit can be de seeded then frozen to add to smoothies, or dried.



Malabar Chestnut:

Anatomy: 30-60 ft tree, open habit, branches clumped in whorls between areas of bare trunk.

Niche in a Food Forest: Overstory usually casting light shade. Can grow vines on it as breadnut above.

Varieties: Many varieties exist worldwide; at least one variety common in Hawaii.

Propagation: From seed, CAUTION: can be weedy, starts very easily from seed.

Planting: Space 20-30 ft apart, if collecting seeds from the ground it is ideal to have them over lawn area or along a road so seeds are easy to find.

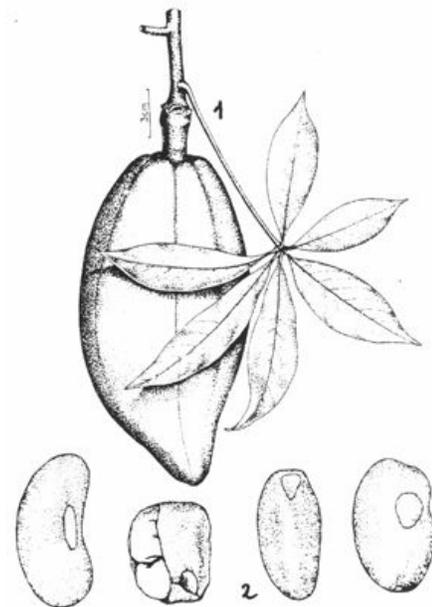
Cultivation: Very easy to grow and can produce in poor and shallow soils. To 1300m elevation.

Diseases / Pest Control: No serious pests known in Hawaii.

Harvest: Ripe pods will open and drop their seeds which can then be collected, or mature pods can be picked and then allowed to open off the tree.

Usage: Roasted or fried (tastes like peanuts), can be boiled, DO NOT EAT RAW.

Storage & Preservation: Need to be used within a week or will dry out or begin to sprout.



Further Reading: Specialty crops for pacific islands at agroforestry.org

Next Class: April 27th 14. Protein Crops: Perennial Greens, Legumes, Nuts & Seeds

Come find out about high protein crops including leaf crops: moringa, chaya and katuk, legumes: perennial lima bean, long bean and pigeon pea, pumpkin seeds and more!

Become a member of our new Puna Chapter:

Hawaii Farmers Union United www.hfuuhi.org

Contact: Malama Aina Permaculture: Edible Landscape Design, Education & Nursery

Providing consultation, design, install, maintenance and edible plants

Past class handouts available at Hawaii-Permaculture-Institute.weebly.com

WadeBauer@gmail.com 248-245-9483



Malama Aina Permaculture