

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

Sweet Tropical Fruits: Papaya, Lilikoi, Citrus, Pineapple Part 17 of 24

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: Besides starchy carbohydrates, protein, and fats, there are many vitamins, minerals, enzymes, nutrients, and medicinals, that are beneficial for a balanced healthy diet. While the sweet fruits covered in this class supply carbohydrates in the form of sugars, they also supply vitamins and minerals. **Bananas** have been covered in a previous class and are recognized as being a top sweet fruit when ripe as well as a starchy carb when cooked green. The fruits covered today are some of the easiest to grow, and most productive in East Hawaii. For sweet fruit production starting with these is recommended first as success is likely. Many other interesting and nutritious fruit may be grown at home.

Papaya

Anatomy: Very soft hollow trunked tree, sometimes branching, full sun to part shade

Varieties: Many varieties: Kapoho Solo most common, Exotica, Solo, Thai, Mexican, red, yellow, and orange fleshed types. GMO varieties are “Rainbow” and “SunUp”.

Niche in a Food Forest: can produce within a year, usually replanted after 3-4 years.

Propagation: from seed, air layered, large cuttings. GMO cross readily. Heavy feeder.

Cultivation: Male, female, and hermaphrodite trees exist, cull males once identified by their flower, hermies are preferred (oblong fruit), but female (rounder fruit) will produce.

Diseases / Pest Control: rats and birds will eat ripe fruit. Ringspot virus (mostly cosmetic)

Harvest: pick when half ripe and will fully ripen off tree, beat the birds and rats to them.

Usage: Can be eaten green as a vegetable, raw or cooked, shredded raw in green papaya salad, cooked like chayote. Ripe eaten fresh, can be made into salsa, peppery seeds used in dressings.

Storage: Preservation: ripe fruit in the fridge will keep several days, dry, freeze, salsa, etc.

Lilikoi

Anatomy: Extremely vigorous climbing vine, can produce within 2 years.

Varieties: yellow, purple, yellow purple cross, marble (hard shell), jamaican orange

Niche in a Food Forest: good on large non fruiting trees with walkable area under to find fruit.

Propagation: easy from seed, mature cuttings sometimes used.

Cultivation: needs a large trellis or tree that will not get smothered, can be grown on fence, ideally at least 6 feet away from other things for it to climb. Very aggressive, but very productive.

Diseases / Pest Control: rats will eat ripe fruit, collect frequently when in season.

Harvest: Fruit falls when ripe and is collected, thick skin protects from fruit flies.

Usage: Juice straining out seeds, eat fresh, sweet tart taste great in salad dressings, lilikoi jelly

Storage: fruit keeps for several weeks, wrinkled fruit can still be used and may be sweeter.

Preservation: juice can be frozen, or made into jelly.

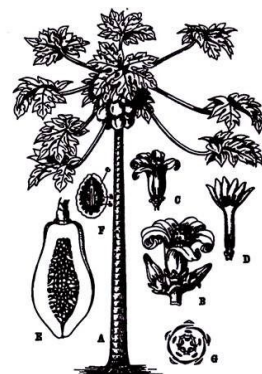


Fig. 63. 1. *Carica papaya* L. A. The plant bearing fruits. B. Pistillate flower. C. A. bisexual flower. D. Staminate flower cut open. E. L.s. of berry. F. L.s. seed; h. true testis; a. sarco testis; e. endosperm. G. Floral diagram



Sweet Citrus

Anatomy: long lived trees, dwarf 6-8 ft tall and wide, regular 15-20 ft tall and wide.

Varieties: Tangelo, tangerine, valencia orange, navel orange, grapefruit, kumquat, pomelo

Niche in a Food Forest: Sun to partial shade, great around edges of other larger trees

Propagation: grafted or air-layered, sweet citrus usually cannot be grown from seed, not “true to seed.”

Cultivation: likes good drainage, benefits from pruning to keep branches from crossing.

Diseases / Pest Control: leaf miners, leaf curl, fruit rot. Seems more sensitive to nutrient deficiency than most.

Harvest: Pick fruit when it turns color, waiting too long fruit will be “stung” by large tropical fruit fly.

Use/Storage/Preservation: usually eaten fresh or juiced, can keep a couple weeks, freeze juice, or make marmalade jelly to preserve, rinds can be candied..

Pineapple

Anatomy: Prefers full sun, 3-5 feet tall, spiky leaves, Bromeliad, 2 years till first fruit

Varieties: White (local favorite), and Gold

Niche in a Food Forest: Forest clearing and edges

Propagation: from suckers, slips, or crowns, can fruit for 2-3 years then replant

Cultivation: Prefers fertile soil, keep mulched and fertilized with 8-8-8

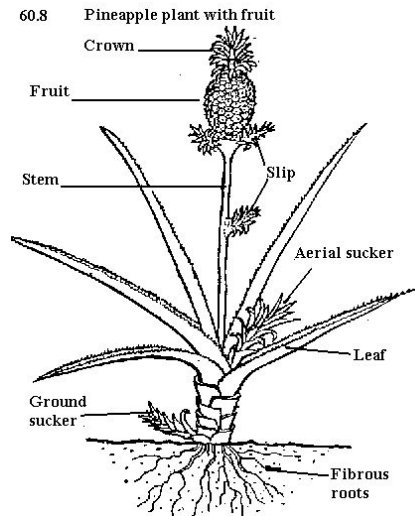
Diseases / Pest Control: Pigs and rats will eat ripe fruit, few other serious pests

Harvest: pick when change in color and tiles widen, and when aromatic

Usage: sweet fruit, high in bromelain a digestive enzyme, salsa, can be a tenderizer

Storage: use within a week or less once ripe

Preservation: Can be dried, or frozen for later use



Easy Sweet Fruit for Growing a Complete Diet at Home in Hawaii

Nutrient Content per 100g, % based on 2000 cal diet.

<u>Crop</u>	<u>Vit C</u>	<u>Vit A</u>	<u>Mag.</u>	<u>Iron</u>	<u>B-6</u>	<u>Cal.</u>	<u>Pot.</u>	<u>Carbs</u>	<u>Sugar</u>	<u>Fiber</u>	<u>Fat</u>	<u>Protein</u>
Banana	14%	1%	6%	1%	20%	0%	10%	23g	12g	10%	0.3g	1.1g
Papaya	101%	19%	5%	1%	0%	2%	5%	11g	8g	6%	0.3g	0.5g
Lilikoi	50%	25%	7%	8%	5%	1%	1%	23g	11g	40%	0.7g	2.2g
Orange	88%	4%	2%	0%	5%	4%	5%	12g	9g	9%	0.1g	0.9g
Pineapple	79%	1%	3%	1%	5%	1%	3%	13g	10g	5%	0.1g	0.5g
Guava	380%	12%	5%	1%	5%	0%	11%	14g	9g	20%	1g	2.6g
Mango	60%	21%	2%	1%	5%	1%	4%	15g	14g	6%	0.4g	0.8

Next Class: August date TBA Perennial Greens & Vegetables Learn all about the many excellent perennial leaf crops such as edible hibiscus, Okinawa and Brazilian spinach, chayote, and more. These allow us to easily grow all of our cooking greens and many of our vegetables.

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WadeBauer@gmail.com 248-245-9483



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