

ETHICS & PRINCIPLES OF PERMACULTURE

Ethics:

- Care for the Earth • Care for People • Return the Surplus

Primary Principles for Functional Design:

1. Observe: Use protracted and thoughtful observation rather than prolonged and thoughtless action. Observe the site and its elements in all seasons. Design for specific sites, clients, and climates.

Observe patterns in nature. Work from patterns to details

2. Connect: Use *relative location*: Place elements in ways that create useful relationships and time-saving connections among all parts. The number of *connections* among elements creates a healthy, diverse ecosystem, not the number of elements.

3. Catch and Store Energy and Materials: The work of the permaculture designer is to maximize useful energy storage in any system, be it the house, livelihood, urban or rural landscape.

4. Each Element Performs Multiple Functions: Find multiple uses for each element in your system. Stack elements in both space and time.

5. Each Function is Supported by Multiple Elements: Use multiple methods to achieve important functions and to create synergies. Redundancy protects when one or more elements fail.

6. Make the least change for the greatest effect: Find the “leverage points” in the system and intervene there, where the least work accomplishes the most change.

7. Use Small Scale, Intensive Systems: Start at your doorstep with the smallest systems that will do the job, and build on your successes, with variations.

8. Stability through Diversity: It is not the number of elements in a design but the functional/beneficial connections.

Principles for Living and Energy Systems

9. Use the Edge Effect: The edge—the intersection of two environments—is the most diverse place in a system, and is where energies and materials accumulate. Optimize the amount of edge.

10. Accelerate Succession: Mature ecosystems are more diverse and productive than young ones, so use design to jump-start succession.

11. Use Biological and Renewable Resources: Renewable resources (usually plants and animals) reproduce and build up over time, store energy, assist yield, and interact with other elements.

12. Recycle energy: Supply local and on-site needs with energy from the system, and reuse this energy as many times as possible. Every cycle is an opportunity for yield.

Attitudes

13. Turn Challenges into Solutions: We are the problem, we are the solution. In permaculture, the focus is on turning constraints into resources.

14. Get a Yield: Look at the sum total of surplus energy produced by, stored, conserved, re-used, or converted by the design. Energy is in surplus once the system itself has available all it needs for growth, reproduction, and maintenance.

15. Abundance is unlimited: The designer’s imagination and skill are bigger limits to yield than any physical limit.

16. Mistakes Are Tools for Learning: Evaluate your trials. Making mistakes is a sign you’re trying to do things better.

17. Local Focus: Think globally, Act Locally. Grow food, save seed, support local economy, and cooperate with neighbors.

18. Relinquishing Power: The role of a successful design is to create a self-managed system.

Food Forest Possibles

Common Name	Botanical Name	Use/Function	Edibility	Description	Growing Specifics
Air Potato					
Avocado					
Banana					
Bejool					
Black Pepper					
Breadfruitt					
Cacao			•leaf tips, leaves, fruit	•vine	
Cardamom					
Cassava	<i>Manihot esculenta</i>	Hedge, privacy break	•leaves, tuber	•tall, lanky shrub	
Chaya	<i>Cnidoscolus chayamansa</i>	Wind break	•leaf tips, leaves	•tall, papaya like tree	
Chayote	<i>Sechium edule</i>	Vine Ground cover	•fruit, tubers, leaf tips •steamed, baked, soups, stir fry	•vine	•Can bear year round •Flower to fruit in 1 month
Chili peppers	<i>Capsicum frutescens</i>	Hedge	•leaf tips, fruit	•shrub	
Coconut					
Coffee		Weed barrier	•leaves, flowers	•low growing herb	
Edible Hibiscus / Pacific Spinach	<i>Abelmoscus esculentus or manihot</i>	Beauty	•Raw or cooked •Leaves •Considered 'slimey' avoid overcooking •High in Calcium	•Attractive, short-lived perennial shrub •Sprawling habit •Can grow 9' tall Large, lobed leaves	•Tolerates heavy rain •Prefers well drained, fertile, neutral soil •Grows well in partial shade or full sun
Glyricidia					

Jackfruit					
Katuk	<i>Sauropis androgynus</i>	Hedge	<ul style="list-style-type: none"> •Raw or cooked •Leaves, flowers and berries •High in proteins and vitamins •Reduces blood sugar 	<ul style="list-style-type: none"> •Tall, lightly woody, perennial shrub •Many, small leaves per branch •Pink/red flowers with white berries •Can grow 12' tall •Sprawling, upright habit •Understory plant 	<ul style="list-style-type: none"> •Tolerates heavy rain and coastal conditions •Likes well-drained, acidic soil, •Grows well in partial shade or full sun •Responds to feeding
Lilikoi (Passion Fruit)					
Lima beans	<i>Phaseolus lunatus</i>	NF	•fruit	•vine	
Macadamia Nut					
Malabar spinach	<i>Basella rubra</i>	Ground cover	•leaf tips, leaves	•vine	
Mango					
Moringa	<i>Moringa oleifera</i> , <i>M. stenopetala</i>	Hedge, trellis	•leaf tips, leaves	•medium sized tree	
New Zealand Spinach	<i>Tetragonia spp</i>	Ground cover	•leaves	•low growing herb	
Okinawan Spinach	<i>Gynura crepioides</i>	Ground cover	<ul style="list-style-type: none"> •Raw or cooked •Leaves somewhat 'slimey' 	<ul style="list-style-type: none"> •Attractive herbaceous perennial •Succulent purple and green leaves •White or yellow flowers •Can grow 5'tall and as wide 	<ul style="list-style-type: none"> •Prefers moist, slightly acidic soil •Full sun, some shade •Tolerates poor soil and some drought
Peach Palm	<i>Bactris gasipaes</i>	Attractive palm Visual screen Barrier	<ul style="list-style-type: none"> •High in starch, vitamin A, and is a well balanced protein •Notable amounts of calcium, phosphorous and iron •Boil or pressure cook Fruit •Heart used raw in salad 	<ul style="list-style-type: none"> •Can grow 30-60' tall •Multiple, slim trunks •Heavy stalks of oval red to yellow fruit 1-2" long •Feather-shaped leaves •Fast – growing 	<ul style="list-style-type: none"> •Likes hot and wet climate •Tolerates many soils •Full sun •Fruits in about 5 years
Pidgeon pea	<i>Cajanus cajan</i>	Screen, NF	•fruit, bean pods	•bush	
Pili Nut					
Pumpkin	<i>Curcubita moschata</i>	Ground cover (large areas)	•leaf tips, flowers, fruit	•vine	

Sissoo Spinach, Brazilian Spinach	<i>Alternanthera sissoo</i>	Ground cover, Barrier	•Cooked •Leaves	•Herbaceous perennial •Quarter to dollar pancake sized leaves •Creeping stems can reach 2' in height	•Tolerates hot, humid conditions and acidic soil •Fast growing •Grows well in partial shade or full sun •Responds to feeding
Sweet Potato ('Uala)	<i>Ipomoea batatas</i>	Ground cover, purple leaved variety for beauty	•Raw (young leaves) or cooked •Leaves, tubers (roots) •Mature leaves contain oxalic acid crystals and may be irritating •Tubers are high in carbohydrates, vit. A, & C with some B1, iron	•Attractive herbaceous perennial vine •Can grow 3'-16' long stems, generally ground hugging, but may climb •Stems typically root at nodes, prevent excess rooting to encourage tuber growth	•Prefers well-drained and aerated soil, slightly acidic •Excess nitrogen or water encourages foliage rather than tubers •Tolerates sandy, poor soil and crushed lava •Full sun, limited shade •Thrives with hot, sunny days and cool nights
Taro (Kalo) Tahitian taro	<i>Colocasia caladium</i> <i>Xanthosoma braziliense</i>	Beauty Food Hedge	•Cooked (do NOT eat raw, contains calcium oxalate crystals) •Leaves, corms (root) •Harvesting leaves reduces corm quality •Corms high in potassium, carbohydrates, thiamine, vitamins B-1 & C, & iron	•Attractive, herbaceous perennial •From 1' – 7' tall depending on variety •Large heart shaped leaves •Less edible varieties have top notch which extends into petiole	•Fast growing •Shallow and fibrous roots •Tolerates a range of elevations, rainfall, humidly and drought •Intolerant of consistently dry conditions or excessive wind
Tumeric					
Winged bean	<i>Psophocarpus tetragonolobus</i>	Trelis vine NF	•leaf tips, leaves, pods, tuber	•vine	
Yacon	<i>Polymnia sonchifolia</i>	Beauty	•Tubers-juicy & sweet •Eaten raw, stir fried, juiced •Contains inulin & minerals	•Herbaceous, slightly woody annual •Can grow 5' tall •Large triangular leaves & small yellow daisy like flowers	•Tolerates heavy rain & shade

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Resources:

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