

Perennial Vegetables

Plant once and
eat for decades!



Perennial Vegetables

Perennials: plants that live for at least 3 years

Vegetables: edible and tasty and typically savory (as opposed to fruits that are sweet)



Perennial Vegetables

Benefits:

Produce continually

Healthy ecosystem

Ornamental

Low maintenance

Build soil

Multi-purpose



Perennial Vegetables

Trees & Shrubs:	Vines & Small Plants
Baobab	Chayote
Cassava	Chufa / Tigernut
Chaya	Garlic Chives
Cranberry Hibiscus	Groundnut
Edible Hibiscus	Malabar Spinach
Katuk	New Zealand Spinach
Moringa	Okinawa Spinach
Papaya	Sweet potato
Pigeon Pea	Tropical Lettuce
Prickly Pear Cactus	Water Spinach

Top 20 Leafy Vegetables by Protein

Common Name	Scientific Name	Calories	Protein	Vit. A	Ca	Fe
Katuk	<i>Sauropus androgynus</i>	310	7.6	10000	234	3.1
Cassava (leaves)	<i>Manihot esculenta</i>	91	7	12450	297	7.8
Moringa	<i>Moringa pterygosperma</i>	75	6.7	10615	472	6.7
Chaya	<i>Cnidoscopus chayamansa</i>	64	6.2		234	2.8
Winged Bean (leaves)	<i>Psophocarpus tetragonolobus</i>	74	5.85		224	4
Balsam Pear (leaves)	<i>Momordica charantia</i>	60	5.1		264	7.1
Edible Malva (leaves)	<i>Malva spp</i>	47	4.9		287	12.7
Glossy Nightshade	<i>Solanum americanum</i>	190	4.7		210	6.1
Eggplant (leaves)	<i>Solanum macrocarpon</i>	42	4.6		391	
Jute Mallow	<i>Corchorus olitorius</i>	46	4.6	5985	284	6
Fenugreek (leaves)	<i>Trigonella foenumgraecum</i>	35	4.5		255	17.2
Taro	<i>Colocasia esculenta</i>	42	4.4	8100	156	1.7
Peanut (leaves)	<i>Arachis hypogaea</i>	69	4.4	7735	262	4.2
Cucumber (leaves)	<i>Cucumis sativus</i>	26	4.2		127	5.8
Sunset Hibiscus (leaves)	<i>Abelmoschus manihot</i>	150	4.1	900	580	3
Chinese Boxthorn	<i>Lycium chinense</i>	33	4.1		187	4.3
Kale	<i>Brassica oleracea</i>	41	4	7150	177	2
Winter Squash (leaves)	<i>Cucurbita spp</i>	34	3.9	1942	303	1.5
Amaranth	<i>Amaranthus spp.</i>	36	3.8	4320	305	5.5
Garden Cress	<i>Lepidium sativum</i>	40	3.75	9300	179	2.5

Perennial Vegetables

Out of the 273 total plants listed in the World Vegetables Book (by Rubatzky & Yamaguchi) the top 4 leafy plants by protein content are:

1. Katuk

Perennial

2. Cassava

Perennial

3. Moringa

Perennial

4. Chaya

Perennial



Katuk

(*Sauropus androgynous*)

- Can be eaten raw or cooked
- New growth, flowers and small fruits used for food
- Greens retain color and firmness when cooked
- Very popular in South and SE Asia
- Humid tropics
- Can grow in shady, humid areas

Katuk (*Sauropus androgynous*)

- 100g serving of fresh katuk leaves supplies 22% of the daily requirement for vit A
- Fresh katuk is a substantial source of vit C (138%)
 - Minimal cooking for improved bioavailability
 - Assists absorption of Fe
- Source of Ca and Fe (elements often lacking in diets that do not contain enough milk).
- One of few vegetables containing vit K
- Highest protein and calorie content of any leafy vegetable listed in the World Vegetables book

Katuk

Sauropus androgynous

Altitude: 0-1500m

Rainfall: no flood / no drought

Temperatures: 25-35C

Daylength: neutral

Growth Habit: bush

Propagation: cuttings (or seed)

Life Cycle: perennial



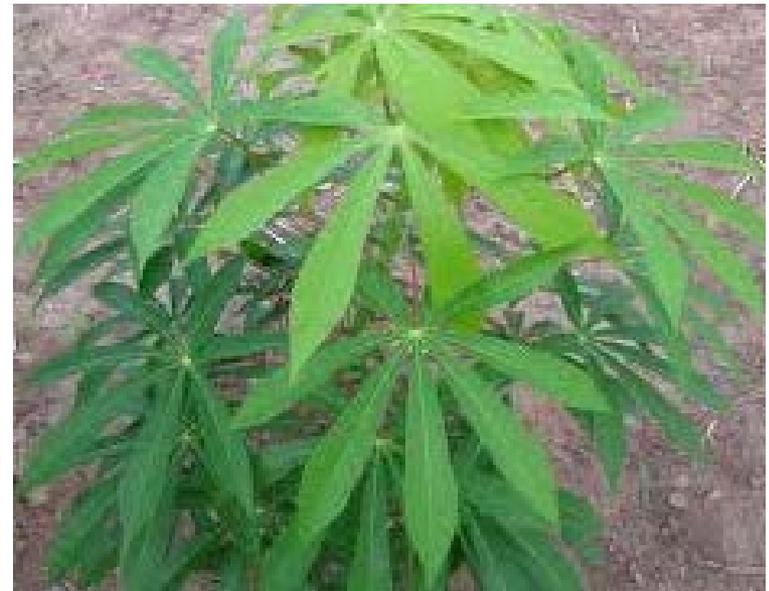
Cassava (*Manihot esculenta*)



- Originated in Brazil and Paraguay
 - Introduced to Africa by Portuguese traders more than 400 years ago
- Perennial woody shrub typically grown as annual
- Roots contain nearly maximum theoretical concentration of starch on a dry weight basis
- Provides one of the highest yields of food energy per cultivated area per day

Cassava Leaves (*Manihot esculenta*)

- Leaves are very nutritious
 - High in protein, vit A, and Fe
- Roots can be left in ground until needed while consuming leaves
- Does well on poor soils and low rainfall
 - Tolerates low pH and high AL
 - Does not tolerate flooding
 - Does not tolerate saline soils



Cassava

Manihot esculenta

Altitude: 0-2000m

Rainfall: 500-5000mm

Temperatures: 18-35C

Daylength: neutral

Growth Habit: shrub

Propagation: cuttings (or seed)

Life Cycle: annual / perennial



Moringa



- Native to India, Red Sea area and parts of Africa
- *M. oleifera* most widely known of the 13 Moringa species
 - *M.peregrina* and *M.stenopetala* drought tolerant
- All parts of plant useful

Moringa

- Pods can be eaten when young
- Mature seeds used to purify water
- Mature seeds contain high quality oil
- Seed extract used as antibiotic
- Bark used to make mats, rope, & blue dye
- Roots used in various traditional remedies
- Flowers used to make a tea (good for sinuses)
- Leaves are very nutritious

Moringa Leaves

- Leaves can be eaten fresh, cooked or dried
- Leaves good source of vit A, vit C, B vitamins, Ca, Fe, K, protein, and the essential amino acids



Moringa

Moringa oleifera

Altitude: 0-600m

Rainfall: 250-1500mm

Temperatures: 25-35C

Daylength: neutral

Growth Habit: tree

Propagation: seed or cuttings

Life Cycle: perennial



Chaya (*Cnidoscolus chayamansa* or *C. aconitifolius*)

- Native to Mexico
- Slightly woody shrub up to 6m tall
- Very high yielding
- Leaves and terminal stems highly nutritious
- Grows in difficult conditions



- Chaya should always be cooked
- Young leaves and tender stems are cut into pieces and then cooked like cassava leaves
- High content of protein, vit A, vit B, Ca, and Fe



Chaya

Cnidoscolus chayamansa

Altitude: 0-1000m

Rainfall: rainy to arid

Temperatures: 21-35C

Daylength: neutral

Growth Habit: bush

Propagation: cuttings

Life Cycle: perennial



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Baobab (*Adansonia digitata*)



- Native to Africa, India and Australia
- Trees reach up to 30m tall and 11m in diameter
- Leaves, fruits and seeds are edible
- Drought tolerant

Baobab (*Adansonia digitata*)



- Leaves are edible and used fresh or dried into a powder
- Fruit and seeds are edible and used in various beverages and snacks
- Tree has many uses, including fiber, dye and fuel
- Trees can store 120,000 liters of water to enable them to survive droughts



Chufa/Tigernut (*Cyperus esculentus*)



One of the worst weeds for more than 30 countries in the world
...but also:

- One of the oldest cultivated plants of ancient Egypt
- Member of the sedge family
- One plant can produce over 1000 edible tubers in a single growing season
- Grows in difficult conditions

Chufa/Tigernut (*Cyperus esculentus*)



- Tubers contain starch, fat, sugar, protein, phosphorus, potassium, and vitamins E and C.
- Tubers contain almost twice the quantity of starch as potato or sweet potato tubers.
- Tubers can be consumed raw, roasted, dried, baked, ground into flour, as a drink (horchata) or oil.
- ...not bad for one of the world's worst weeds

Favorite Florida Perennial Vegetables

Katuk	Cranberry Hibiscus
Chaya	Tropical Lettuce
Cassava	Okinawa Spinach
Moringa	Malabar Spinach
Basket Vine	Garlic Chives





What are
your
favorite
Perennial
Vegetables
?