

Perennial Vegetables and indigenous nutrient dense greens/Community seed banks to improve plant based nutrition



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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:
- Katuk
- Cassava
- Moringa
- Chaya

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

Cassava Leaves (*Manihot esculenta*)

- Originated in Brazil and Paraguay Introduced to Africa by Portuguese traders more than 400 years ago
- Leaves are very nutritious, High in protein
- Does well on poor soils and low rainfall



Moringa



- Native to India, Red Sea area and parts of Africa
- *M. oleifera* most widely known of the 13 *Moringa* species
- Leaves are very nutritious
- Flowers used to make a tea

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

Community seed bank

- ECHO East Africa seed bank provides training on seeds savings and management (Community seed bank)
- Simple and easy to implement
- Focus on preserving indigenous / local seeds varieties
- Use of local ways of storing seeds and treatments

Activities Of ECHO EA Seed Bank

- Sourcing seeds
- Storing
- Multiplication
- Distribution



Modern way of storing seeds



ECHO Grow out plot

Grain amaranth



African nightshade



Sample packets of seeds (Kits)

Seeds kit



Packets of seeds



Conclusion

- East African Community Development workers, NGOs and other organizations should encourage small scale farmers to save their own seed to help prevent dependency on seed suppliers.

