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# Fast-Growing Plants for Household Food Supply

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Quarantines, preventative measures associated with disease outbreaks like COVID-19, limit people's ability to go to markets and stores to get food. People may also find that they have extra time around the house to invest in gardening. During such times, household gardening gains importance for sustaining families. Perennials can be grown around the home and offer long-term sources of food; where space is available, plant them as soon as possible. Here, however, we cover plants that are propagated from seed and that provide edible leaves, fruits, or roots in as little time as possible.

## Plants for edible, young leaves

You can harvest plants with edible leaves before they flower and set seed. Amaranth plants, for example, produce edible leaves and tender stems that can be harvested as soon as a month after seeding. Sow seeds directly into the garden, or into containers for subsequent transplanting into garden beds. Table 3 provides suggested spacing for this and other plants mentioned in this article. ECHO's Global Seed Bank carries several varieties of vegetable amaranth (*Amaranthus tricolor*), which tend to produce more leaves than their grain-type cousins (*A. cruentus* and *A. hypochondriacus*)--although the leaves of grain types are also edible. If you aren't sure which variety you have, seeds of the vegetable type tend to be black in color, while seeds of the grain types tend to be white, tan, or red in color.

Leaf-harvesting tips:

- Leave developing leaves on the plant for later harvest(s).
- When plants are 20-30 cm tall, cut off the top 2-3 cm of stem growth to encourage branching and more leaf production.
- Let a few of the healthiest-looking plants grow for seed.

**Table 3.** Time from planting to harvest and spacing recommendations for fast-growing vegetables with edible leaves, fruits, and roots. Days to harvest and spacing designations are approximations.

<b>Leafy greens</b>	<b>Common name</b>	<b>Days to harvest (from seeding to earliest harvest)</b>	<b>Spacing (cm within x between row)</b>	<b>Source</b>
<i>Amaranthus</i> spp.	amaranth	28-42	15 x 30	ECHO TN 2
<i>Brassica rapa</i> subsp. <i>chinensis</i>	bok choy	40	10 x 20	PROTA4U
<i>Celosia argentia</i>	Lagos spinach	28-35	15 x 30	ECHO TN 56
<i>Corchorus olitorius</i>	jute mallow	21-28	10-20 x 30-50	PROTA4U
<i>Lactuca</i> spp.	lettuce	60	35-60 x 35	PROTA4U
<i>Vigna unguiculata</i>	cowpea	28	15 x 50	PROTA4U
<b>Fruits</b>				
<i>Abelmoschus esculentus</i>	okra	50	30 x 60	PROTA4U
<i>Cucurbita pepo</i>	zucchini	55	50-100 x 50-100	PROTA4U
<i>Solanum lycopersicum</i>	tomato	60-80	40 x 60-75	Ebesu (2004)
<b>Roots</b>				

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<i>Beta vulgaris</i>	beet	56	25 x 10	PROTA4U
<i>Daucus carota</i>	carrot	60	5-10 x 8-10	PROTA4U
<i>Raphanus sativus</i>	radish	21	2-4 x 10-25	PROTA4U

Lagos spinach (*Celosia argentea*; Figure 6) can be planted and harvested in the same manner as vegetable amaranth. Both amaranth and Lagos spinach are high in protein, vitamins A and C, calcium, and iron. Lagos spinach is also high in antioxidants, important in maintaining the body's immune system. Amaranth and Lagos spinach contain anti-nutrients such as oxalate and nitrate, which are most effectively removed by boiling for 5-10 minutes and discarding the cooking water. ECHO's Global Seed Bank carries a green-leaved variety and a green- and red-leaved mix.



**Figure 6.** Lagos spinach plants at ECHO's Global Demonstration Farm in Florida. *Source:* Tim Motis.

Other underutilized, leafy greens featured in our seed bank include cowpea (*Vigna unguiculata*) and jute mallow (*Corchorus olitorius*). Cowpea is most commonly grown for its edible seeds, but you can also eat the leaves. Owade *et al.* (2020) discuss boiling, sun drying and other ways to process cowpea leaves. By providing cowpea plants with something to climb (e.g., stakes or a trellis), you can concentrate leaf production in a small area while also minimizing plant diseases by keeping the leaves off the ground. Jute mallow leaves and shoot tips can be eaten raw or cooked.

More conventional leaf vegetables include bok choy (*Brassica rapa* subsp. *chinensis*), lettuce (*Lactuca* spp.), collards (*Brassica oleracea* var. *viridis*), and kale (*Brassica viridis*). Collards and kale are the most heat tolerant of these. Of the lettuce varieties offered in our seed bank, 'Queensland' and 'Tropical Lettuce' withstand warm temperatures the best.

# Plants with edible structures other than leaves

If you are looking for something besides leaves, three fruit-bearing options are okra (*Abelmoschus esculentus*), tomato (*Solanum lycopersicum*), and zucchini (*Cucurbita pepo*). Okra grows well in hot climates, and early-yielding okra varieties such as 'Prelude' and 'Burmese' start to produce pods in a little less than two months. Okra pods are good for eating while still young and tender. Harvest the pods regularly—every few days—to prolong the harvest season and to prevent pods from getting fibrous. Grape, cherry, and roma tomatoes are more forgiving of heat and humidity than the large, round types. In tropical climates, zucchini should be planted during the coolest months, which usually coincides with the beginning of the dry season.

Fast-growing root vegetables include beets (*Beta vulgaris*), carrots (*Daucus carota*), and radishes (*Raphanus sativus*). These cool-season crops grow best in high-elevation (600-1200 m) parts of the tropics. In lower-lying areas, try growing them during the coolest time of year, and mulch the soil to reduce heat. Though most carrots require a cold period to set seed, the 'Uberlandia' carrot variety (available from ECHO's Global Seed Bank) was selected for its ability to produce carrots and even set seed in the low-lying tropics. Though it is more heat tolerant than other carrot varieties, plant 'Uberlandia' during the coolest time of year for best-tasting carrots.

## Where to get seeds

ECHO supplies trial packets of seeds, which we will continue to do as best we are able under the uncertain circumstances of the current COVID-19 pandemic. Crops mentioned in this article are available through the ECHO Global Seed Bank at this writing. You can select your own combination of crops, or select a Quick Garden Bundle (one for tropical and another for temperate conditions). See our online catalog ([https://www.echocommunity.org/en/pages/echo\\_global\\_seedbank\\_info](https://www.echocommunity.org/en/pages/echo_global_seedbank_info)) for ordering/pricing information. Additionally, Seed Programs International (<https://seedprograms.org/>) (SPI) and Hope Seeds (<https://www.hopeseeds.org/>) can help you with bulk quantities of vegetable seeds. SPI has a Global Gardeners (<https://seedprograms.org/work-with-us/become-a-global-gardener>) web page, through which those in the United States can purchase seeds and, in so doing, support SPI's international efforts.

## References

- Ebesu, R. 2004. Home Garden Tomato. *Home Garden Vegetable Series* no. 5. College of Tropical Agriculture and Human Resources, University of Hawaii.
- O'Brien, G.K. and M.L. Price. 1983. (Revised by L. Yarger in 2008). Amaranth. *ECHO Technical Note* no. 2.

Owade, J.O., G. Abong, M. Okoth, and A.W. Mwang'ombe. 2020. A review of the contribution of cowpea leaves to food and nutrition security in East Africa. *Food and Science Nutrition* 8:36-47.

Plant Resources of Tropical Africa. PROTA4U Database.  
<https://www.prota4u.org/database/> (<https://www.prota4u.org/database/>).  
Accessed 8 April 2020 [NOTE: You can search by common or scientific name for information on crops you are interested in.]

Yarger, L. 2007. Lagos Spinach. *ECHO Technical Note* no. 56.

## Further Reading

Food and Agriculture Organization. Crop calendar- An information tool for seed security (<http://www.fao.org/agriculture/seed/cropcalendar/welcome.do>). [This is an interactive tool with information on planting and harvest times of crops within countries.]

Shackleton, C.M., M.W. Pasquini, and A.W. Drescher (Eds). 2009. *African Indigenous Vegetables in Urban Agriculture* (<https://pdfs.semanticscholar.org/3948/ff2dba9156b00f0ba4629404b7745bf6c92f.pdf>). Earthscan. [Chapter 5 contains production and harvesting information for a number of vegetables grown in Africa.]