

Amaranth Leafy Vegetables: A New Opportunity for NC Growers



- Vegetable amaranth is a new and emerging crop among growers and is especially popular with immigrants from many parts of the world. The edible younger leaves and fleshy young stems of vegetable amaranth provide high dietary fiber, proteins including lysine and methionine, minerals, vitamins, carotenoids, abundant pigments, phenolic, and flavonoid compounds.
- Amaranth is reported to protect against many diseases including arthritis, cardiovascular diseases, and cancer, cataracts, emphysema, atherosclerosis, and neurodegenerative diseases. Hence, vegetable amaranth may haveplay an important role in enhancing health and other benefits.
- As a vegetable, amaranth is ranked among the top five vegetables in antioxidant capacity.
- Grain amaranth varieties (which also provide vegetable greens when young) are among the top three pseudocereals in the world; others include quinoa and buckweed.
- Vegetable amaranth is a resilient vegetable that tastes similar to spinach and grows in a wide range of environments; it provides salad greens when lettuce and spinach, collard, and others have long bolted. Some call it the new kale!
- NC is a major destination for immigrants, particularly those from Asia, Central America, and Africa where amaranth is a delicacy.
- Multiple use and products of amaranth: leafy greens, micro-greens, grains, flour, and possibly as a biofuel feedstock.



Harvested amaranth vegetables



Amaranth micro-greens (top) and grain (bottom) *web source*



Amaranth stems after vegetable harvest.

Ongoing research at NC A&T State University

Our research aimed to develop a pest management approach for insect defoliators that severely damage amaranth greens thus limiting cultivation and market opportunity for new enterprising NC growers and displaced farmers.

Objectives:

1. To determine insect (pest and beneficial) incidence, diversity, and damage, with or without a putative beneficial trap crop (BTC) (i.e. one that can be protected and harvested), leaf compost or other mulch such as soybean straw, and how these affect biomass (tender leaves and stems) yield.
2. Determine the effect on and profits (cost-benefit to growers from leaf and grain yields) when two vegetable amaranths (“Green Callaloo” and “Red Leaf”) are grown with two beneficial trap crops (eggplant and mustard) without compost mulch, and with or without threshold-based (score of 2 of 5, see below) insecticide (PyGanic® application).



Many amaranth varieties are highly susceptible to damage by the flea beetle
(see insert)



Leaf damage by flea beetle will go from bad to worse if no intervention is made

L-R: A score of 2 or 3 (slight to moderate damage) to a score of 4-5 (complete damage)



NC A&T State University Research Farm



CEFS, Goldsboro farm



CWG School Farm in Winston-Salem
(students in background)



Growing Amaranth

A major benefit of amaranth is that they can be easy to grown. The young seedlings can often be found at some Asian food markets, and farmers' markets, and seeds can also be purchased online seed vendors. There are some tips for growing amaranth for leaves:

If you are planning to grow amaranth for vegetable, start seedlings in the early spring . It is also possible to start early by planting them indoors as seedlings before the end of the first frost and move them outdoors once the temperatures gets warmer.

- Irrigate amaranth plants during dry periods, once or twice per week depending on soil moisture.

- Plants can be grown in drier clay soil; however, they grow best in well-drained soil with compost. Plant the seeds about 7 to 10 inches spacing, they can withstand a little crowding.
- They do well in hot/warm climates and many varieties are known to be drought-resistant. However, they are also grown in cooler climates.
- When the plants reach one to two feet in height, leaves and branches can be harvested for leaves every 10-14 days apart.

Amaranth Recipes

➤ Amaranth with coconut milk and tomatoes

Ingredients

- 2 lbs amaranth leaves chopped
- 4 cups water, 1 large onion chopped
- 2 tbs olive oil, 1 tsp salt
- 1 cup coconut milk
- 2 large chopped tomatoes

Instructions

- Rinse amaranth leaves and then dry in a clean towel.
- Heat oil up to medium heat and add onion. Sauté for 5 minutes.
- Add tomatoes and amaranth, cook until soft.
- Add coconut milk and salt and cook for ten minutes.
- Serve with cooked rice, or cooked amaranth grain



Source: <https://www.fincatresrobles.org/spring-seasonal-recipes/2019/2/7/amaranth-leaves-in-coconut-milk>

➤ Stir-fried Pink Amaranth Greens

Stir-fried amaranth greens in garlic and oil is the best way to enjoy this healthy vegetable!

Ingredients

- 1 pound amaranth (chopped)
- 3 tablespoons vegetable oil
- 5 cloves garlic
- 1/4 teaspoon sesame oil
- sugar, and salt

Instructions

- Heat the wok/pan until smoking. Add the oil and quickly add the garlic and the veggies and stir constantly.
- After a minute, add salt, sugar, and sesame oil stir until just wilted.
- Be liberal with your salt to bring out the flavor of the greens and add some sugar to balance the saltiness. This should get you fairly close to restaurant quality.



• Pile the vegetables up in a small mound at the center of the wok/pan. This allows the sides to heat up (the higher the heat, the better they'll taste!). Put the lid on the pan and cook for 1-2 minutes. Stir briefly, and serve!

Source: <https://thewoksoflife.com/stir-fried-pink-amaranth-greens/>

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