Amaranthus: a plant of many faces

By Kathy Wolfe
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From brilliant blossoms to nutritious gluten-free grain

One of the most strikingly beautiful plants in the Discovery Garden shares the same family as common pigweed. In its many guises, this versatile genus of herb can be used for grain, as a dye, in salad and cooked dishes, as an ornamental and as a weed. Welcome to the world of Amaranthus.

The name for amaranth comes from the Greek *amarantos* meaning "one that does not wither" or "the never fading." Indeed, amaranth's bushy flower varieties remain vibrant even after harvest and drying. Throughout the world man has used amaranth in both wild and cultivated forms for food, medicine and animal fodder. For practical purposes, amaranth can be divided into the following groups, according to their main use today: grain amaranth, leaf amaranth, decorative amaranth and weeds.

Amaranth has been cultivated as a grain for somewhere between 6,000 to 8,000 years. One of its virtues is the ability to grow in light soils under harsh nutritional conditions to produce an efficient grain crop. It is a native of Peru, prefers high elevation conditions, but is impressively adaptive and can grow well in moist, loose soil with good drainage in almost any elevation and climate. Once established, it can continue to thrive in low water conditions, an especially valuable trait in sub-Sahara Africa. Raw amaranth grain isn't edible and cannot be digested. It must be prepared and cooked like other grains. According to the Whole Grain Council, amaranth is technically a pseudo-cereal, having an equivalent nutritional profile to true cereals such as oats, wheat, sorghum and most others, but coming from a different plant species.

Amaranth is gaining popularity as a gluten-free flour, rich in protein. Both the processed flour and the tiny raw seeds can increasingly be found at a local co-op or supermarket. **Photo by Christine Farrow / WSU Skagit County Master Gardener**

Several species are raised for amaranth grain in Asia and the Americas. It was an important crop for the Aztecs and tribute to the emperor was often given in the form of amaranth grain. Both the Incas and Aztecs toasted the seeds much like popcorn and mixed it with honey or molasses to be eaten as a treat or used in ceremonial gatherings. These honeyed treats were formed to represent a deity and were worshiped before being broken into pieces and eaten by the people. When Cortez and the Spanish landed in the New World, they outlawed the heathen ceremonies and gave severe punishments for growing or possessing amaranth. A rendition of this sweet (*dulce de alegria*) is used today as a popular snack

sold in Mexico City and other parts of Mexico. The plant is still cultivated on a small scale in parts of Mexico, Guatemala, Peru, India and Nepal, China, Russia, Thailand and Nigeria because it is easily harvested and produces a lot of fruits (and thus seeds) that are used as grain. Amaranth grain contains large amounts of protein (13-14%), many essential amino acids including lysine and is naturally gluten-free. Due to its weedy life history, amaranth grains grow very rapidly and their large seed heads can weigh up to 1 kilogram and contain a half-million seeds. Amaranth seed is also used to produce oil for use in cooking or ground and used as flour.

Left: Amaranthus tricolor leaves are edible when young. When left to mature in the sunny garden, they will yield a brilliant burst of color in late summer. **Photo courtesy of Judy White / GardenPhotos.com**

Right: The startling crimson of the Amaranthus caudatus blossoms drooping to the ground in late summer suggest the origin of its common name, "Love-Lies-Bleeding". Often used dried in autumn arrangements, the bright crimson tassels and seed heads will dry to a dark burgundy. **Photo by Christine Farrow / WSU Skagit County Master Gardener**

Leaf amaranth is grown throughout Southeast Asia, India, China, Africa and Central America. Indians prefer the green-leaved variety and Chinese the red-leaved. Red leaves are used in many cultures, including the Hopi American Indians, as a dye. Both the leaves and stems are edible and delicious. Very young leaves can be used raw in salads. In cooked dishes amaranth can be substituted for spinach in most recipes, although it cooks faster than spinach. It is best treated simply: steamed, stir-fried or mixed in meat and fish dishes.

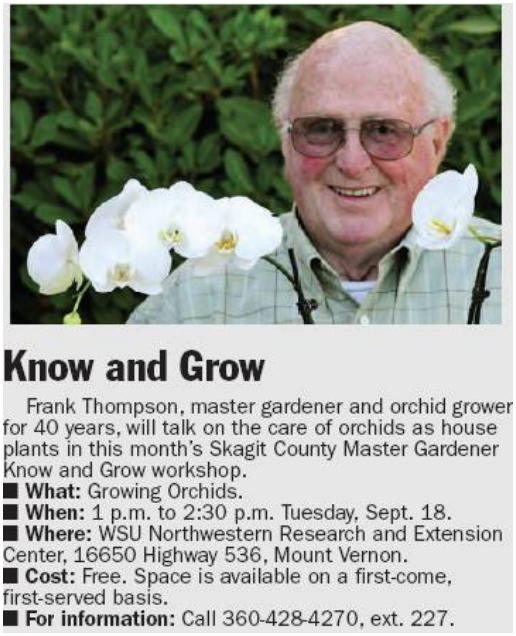
Some amaranths can be both edible and decorative while others are purely ornamentals. Several forego fancy flower production for beautiful foliage ranging from deep blood red to light green shot with purple veining. The stunning multi-colored leaves are wonderful in arrangements, as are the upright or gracefully cascading flowers. *Amaranthus caudatus* (love-lies-bleeding) is a hardy annual with dark purplish flowers crowned in handsome, droopy spikes. It is a native of India and is the variety we are growing this year at the Discovery Garden in Mount Vernon. *A. hypochondriacus* (Prince's Feather) is another Indian annual which has deeply-veined lance-shaped leaves, purple on the under face and deep crimson flowers densely packed on erect spikes. *A. tricolor,* (Joseph's coat or Chinese spinach) resembles highly vibrant poinsettia leaves and was cultivated by Thomas Jefferson at Monticello.

The weedy amaranth is the one commonly known as pigweed. These hardy plants cause a great reduction in soybean and cotton production as well as problems in the home garden. At one time pigs were given the weed to eat, hence the name. "Note: WSU Skagit County Extension Director Don McMoran says that local seed producers also fight pigweed when growing spinach, so he cautions gardeners about spreading this invasive weed."

Try a variety of this versatile plant at home and look for it next year in the Discovery Garden vegetable patch.

RESOURCES

- Alternative Field Crops Manual (University of Wisconsin Extension: University of Minnesota Center for Alternative Plant and Animal Products: University of Minnesota Extension)
- Whole Grains Council
- Fine Gardening Magazine



Know and Grow

Frank Thompson, master gardener and orchid grower for 40 years, will talk on the care of orchids as house plants in this month's Skagit County Master Gardener Know and Grow workshop.
■ **What:** Growing Orchids.
■ **When:** 1 p.m. to 2:30 p.m. Tuesday, Sept. 18.
■ **Where:** WSU Northwestern Research and Extension Center, 16650 Highway 536, Mount Vernon.
■ **Cost:** Free. Space is available on a first-come, first-served basis.
■ **For information:** Call 360-428-4270, ext. 227.