

Amaranth and the Reawakened 25

Edited by Raúl Hernández Garcíadiego, Alternativas and Quali

HIGH IN PROTEIN, FIBER, VITAMINS, SEVERAL ESSENTIAL AMINO ACIDS and low in saturated fats, Amaranth's small seed has impressive nutritional features that have recently popularized it worldwide as a super-food. Amaranth has been cultivated for centuries in the Tehuacán-Cuicatlán Valley region of Mexico. Mexico's traditional agriculture, the wise polycultivation system known as milpa, featured amaranth, maize and beans grown together forming a powerful nutritional triad. The Green Revolution, in Mexico starting in the 1940s, pushed farmers to 'modernize' by planting solely corn, drastically decreasing the production, consumption and awareness of amaranth. Increasing recognition of amaranth's nutritional benefits has the potential to elevate the grain from a regional dessert ingredient to an important global crop, with positive economic, environmental and social repercussions for Mexican farmers. This tiny grain is helping farmers reclaim their heritage and fight malnutrition.



AMARANTH

Amaranthus Hypochondriacus

Origin: Mexico, Mesoamerica
Grown across the Americas and Asia
Protein-rich grain containing 10 essential amino acids, plant with iron-rich leafy greens

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BOTANY

Amaranth is a herbaceous plant growing 4 to 9 feet (1.2-3 m) tall. The plant is cultivated in temperate regions as an annual and used either as an ornamental plant or as a food source. The long stems alternate simple leaves and end in a colorful spear of radially symmetric spiky flowers (panicle inflorescence) that hide thousands (up to 60,000 seeds) of tiny amaranth grains. Amaranth is part of the plant family Amaranthaceae, which also features quinoa, beets and spinach. There are 60 different species of amaranth.

CULINARY USE

The seeds and leaves of the Amaranth plant are commonly eaten. The tiny seeds have a flavor similar to quinoa. Amaranth is easy to cook, simply needing to boil in twice the volume of water to grain for 15-20 minutes. Amaranth is boiled into porridge or sweet beverages and ground into flour and baked into desserts. The seed is also popped, mixed with sweeteners such as agave syrup or honey, and formed into balls or bars for a high protein snack. In Mexico the leaves (called "quelites," a blanket term for edible green leaves) are utilized similarly to spinach, cooked into dishes and served sauteed as a side. The leaves are also commonplace in many Asian and African cuisines.

NUTRITION AND MEDICINAL USE

The amaranth grain is naturally gluten free and close to a complete protein with 10 essential amino acids including lysine, which most other grains lack. A serving of grain amaranth contains upwards of 20% of the recommended daily value of protein, fiber, vitamin B6 and several other minerals. Amaranth leaves, when cooked, contain high amounts of vitamin C, vitamin A, calcium and manganese and notable amounts of iron and potassium.

AGRICULTURE

Amaranth grows best in hot, tropical environments but can grow in temperate regions without frost. Amaranth is comparatively drought resistant, making it a valuable crop in times of erratic climatic change and water scarcity. With its tiny grains, a small amount of amaranth by weight can plant a large area, making it a cost-effective crop for small farmers. Compared to the number of seeds used for planting, amaranth produces a high yield with large seed heads and up to 60,000 grains per stalk. The grain is harvested an average of 90-180 days after planting, depending on the variety and season's weather. Amaranth leaves are picked carefully to avoid slowing down the maturation of the grain. Amaranth is often grown in field rotation with beans and corn to prevent soil degradation.

Amaranth seeds are difficult to thresh and clean. The seeds are wrapped in a cuticle topped off with tiny sharp spines, painful for those who handle the unthreshed grain. Machines to thresh and clean amaranth grains are hard to come by and expensive, especially for small scale producers. The lack of appropriate and accessible processing technology is perhaps the greatest technical difficulty present in preventing the expansion of amaranth cultivation.

HISTORY

Amaranth is native to Mexico and Central America and has been a traditional staple of the region for centuries. The cultural roots of amaranth go back to 6500 BCE. The domestication of amaranth, corn, beans, chile and other crops in the Tehuacán-Cuicatlán Valley region by the ancestors of the current Popolocas marked the beginning of Mesoamerican agriculture. People of the Tehuacán-Cuicatlán Valley region were incredibly skilled agrarians who not only began the cultivation of many important crops, but also developed irrigation runoff control technology, as seen in the Purrón Dam Complex.

The Aztecs, who migrated to the Valley of Mexico in 1325 after the domestication of amaranth, reportedly received 80% of their caloric consumption from amaranth prior to Spanish conquest and the consequential introduction of rice and wheat to the Americas. Colonization by the Spanish meant the suppression or replacement of many traditional cultural, religious, and agricultural practices.

Indigenous peoples preserved the cultivation of amaranth in Mexico, particularly in regions surrounding the Trans-Mexican Volcanic Belt (chain of volcanoes that runs east-west across central-southern Mexico) such as the states of Puebla, Tlaxcala, Mexico City, Oaxaca, Morelos and more recently, Querétaro and San Luis Potosí.

Amaranth production was revived in the 1980s as the negative effects of foreign-dominated maize monoculture agriculture were coming to light, largely thanks to the work of research Alfredo Sánchez Marroquín and his 1980 book "Potencial Agroindustrial del Amarantho" (The Agroindustrial Potential of Amaranth) which awakened the interest of institutions and nonprofits to rescue and promote amaranth. By 1982, organizations such as Alternativas were already embarking on experimental amaranth plantings. Indigenous traditions grew in popularity and gained respect as answers for social and environmental ills like malnutrition and environmental degradation. Amaranth varieties (e.g. A. hypochondriacus) were recovered from wild varieties and non profit seed collectors. Amaranth continues to grow in popularity worldwide as a nutritious, easy to grow crop that is adaptable to climatic difficulties and drought.

RESEARCH

The Mexican government began research into amaranth's potential in the 1980s, with Alfredo Sánchez Marroquín's research for the Center for Economic and Social Studies for the Third World (CEESTEM) and investigations by national institutes and universities. Around the same time, civil organizations promoted amaranth cultivation and development in Puebla (Alternativas/Cedetac) and Hidalgo (Utopía Huixcazdhá). In 1995, the nonprofit Alternativas published the Seeding Guide for Intensive Cultivation of Amaranth in Semi-Arid Zones, which was recognized by the Food and Agriculture Organization and the United Nations Development Program for its technological accomplishments. Mexican community organizations and nonprofits such as [Puente a La Salud Comunitaria](#) in Oaxaca and [Alternativas](#) in the Tehuacán Valley continue to promote amaranth production as a tool for community health and economic and social development for smallholder producers. Amaranth is being researched as a promising crop for [areas with high soil salinity](#).

CUISINE

- [17 Amaranth Recipes](#) - Oola
- [Amaranth Recipes](#) - Food & Wine
- [Amaranth- What it is and How to Cook it](#) - Healing Tomato

SOURCING

- [Quali Amaranth Cooperative in Mexico](#)
- [Organic Amaranth](#) - Bob's Red Mill
- [Amaranth Seed](#) - Sustainable Seed

COMMUNITY RESOURCES

- [History of Amaranth](#) (in Spanish) - Raúl Hernández Garcíadiego Gisela Herrerías Guerra
- [Amaranth Community Resources](#) - ECHO
- [Amaranth Institute](#)
- [Tehuacán Valley Amaranth](#) - Slow Food Foundation for Biodiversity
- [Puente a La Salud Comunitaria](#) - NGO
- [Alternativas](#) - NGO
- [Amaranth: Modern Prospects for an Ancient Crop](#) - USAID

SOURCES

- [Amaranth: Planting, Growing and Harvesting](#)
- [Amaranth: Another Ancient Wonder Food, But Who Will Eat It?- National Geographic](#)

