

Quinoa

(*Chenopodium quinoa*)
Family: Amaranthaceae



Geography



- Originated in the Andean region of Chile, Peru, Bolivia, Ecuador and Colombia, where it was domesticated 3,000 to 4,000 B.C.
- Optimal growing conditions are in cool climates with temperatures that vary between -4°C (25°F) during the night to near 35°C (95°F) during the day
- Light frosts normally do not affect the plants at any stage of development, except during flowering. Mid-summer frosts during flowering, often occurring in the Andes, lead to sterilization of the pollen.
- Growth is optimal with well-distributed rainfall during early growth and development and dry conditions during seed maturation and harvesting.

Description



- It is a dicotyledonous annual plant usually about 1–2 meters (3.3–6.6 ft) high.
- It has broad, generally pubescent, powdery, smooth (rarely) to lobed leaves normally arranged alternately.
- The woody central stem is branched or unbranched depending on the variety and may be green, red or purple.
- Each panicle has a central axis from which a secondary axis emerges either with flowers (amaranthiform) or bearing a tertiary axis carrying the flowers (glomeruliform).

Cultivation



- Quinoa grain is usually harvested by hand and rarely by machine, because the extreme variability of the maturity period of most Quinoa cultivars complicates mechanization.
- The seed yield (often around 3 t/ha up to 5 t/ha) is comparable to wheat yields in the Andean areas.
- The plants are allowed to stand until they are dry and the grain has reached a moisture content below 10%, the seeds need to be dried in order to avoid germination.
- Harvest needs to be precisely timed to avoid high seed losses from shattering, and different panicles on the same plant mature at different times.

Plant Usage



- Quinoa grain has been called a superfood, nutritional evaluations indicate that quinoa is a source of complete protein.
- Quinoa is a rich source of the B vitamins thiamine, riboflavin, vitamin B6, and folate and is a rich source of the dietary minerals iron, magnesium, phosphorus, and zinc.
- It is gluten-free and considered easy to digest.
- Andean people apply plasters of black quinoa combined with other plants to heal broken bones.

History



- Quinoa was first domesticated by Andean peoples around 3,000 to 4,000 years ago.
- The Incas, who held the crop to be sacred, referred to it as chisaya mama or "mother of all grains", and it was the Inca emperor who would traditionally sow the first seeds of the season using "golden implements".
- During the Spanish conquest of South America, the colonists scorned it as "food for Indians", and suppressed its cultivation, due to its status within indigenous religious ceremonies. The conquistadors forbade quinoa cultivation for a time and the Incas were forced to grow wheat instead.