



QUINOA

(Chenopodium Quinoa)



Global
Facilitation
Unit
for Underutilized
Species

enabling deployment of underutilized species

What is Quinoa and where does it come from?

Quinoa originated in the Andean region of South America, where it has been an important food for 6,000 years. The mature plants stand 1 to 2 meters high and produce striking colors such as red, purple, yellow and black heads of seeds which turn brown on reaching maturity . The grain can be used as flour, or toasted, added to soups or made into bread. Dried it can be stored for up to ten years. It is a pseudocereal rather than a true cereal as it is not a grass. Its leaves are also eaten as a leaf vegetable but the commercial availability of quinoa greens is currently limited.

The Incas, who held the crop to be sacred, referred to quinoa 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.' Thanks to its precious nutritional properties, quinoa helped sustain the Inca army on its long march through the Andes.

PROPERTIES

Quinoa is an easy food to prepare, has a pleasantly light, fluffy texture when cooked, and its mild, slightly nutty flavor makes it an excellent alternative to white rice or couscous. It is highly appreciated for its nutritional value, as its protein content is very high. Unlike wheat or rice (which are low in lysine), quinoa contains a balanced set of essential amino acids for humans, making it an unusually complete foodstuff. Quinoa is higher than wheat, corn or white rice in iron, phosphorus, and calcium. It is also a good source of dietary fiber and phosphorus and is high in magnesium. Quinoa is gluten free and considered easy to digest. Its seed can also be used to make a high protein drink.

❖❖❖ Food Preparation

The first step in preparing quinoa is to remove the saponins, a process that requires soaking the grain in water for a few hours, then changing the water and re-soaking again, or rinsing it in ample running water either in a fine strainer or in cheesecloth. However, all quinoa that reaches the consumer is already processed. A common cooking method is to treat quinoa much like rice. Vegetables and seasonings can also be added to make a wide range of dishes. Quinoa can serve as a high-protein breakfast food mixed with honey, almonds, or berries; it is also sold as a dry product, much like corn flakes. As a snack food, Quinoa can be toasted in a dry pan over medium heat until it is browned and mixed with granola, fruit (fresh or dried), coconut, or just eaten by itself. *Quinoa flour* can be used in wheat-based and gluten-free baking. Lastly, quinoa may be germinated in its raw form to boost its nutritional value. Germination activates its natural enzymes and multiplies its vitamin and mineral content. In fact, quinoa has a notably short germination period. Raw quinoa germs are very suitable to be added to salads and other cold foods. Its *leaves* are also eaten as a leaf vegetable, much like amaranth, but the commercial availability of quinoa greens is currently limited.

❖❖❖ Other Uses

Quinoa seed can produce a healthy, nutritious and tasteful drink. The seed is rich in protein and contains a better amino acid balance than the protein in most cereals and is considered even better than cow's milk. It may prove a better protein source than most of the true cereals. It is high in the essential amino acids lysine, methionine and cystine, making it complementary both to other grains and to legumes such as beans.



QUINOA



GROWING

Quinoa is generally undemanding and altitude-hardy, so it can be easily cultivated in the Andes up to about 4,000 meters. Even so, it grows best in well-drained soils and requires a relatively long growing season. In its natural state it has a coating of bitter-tasting saponins. This bitterness has beneficial effects in terms of cultivation, as it is a crop that is relatively untouched by birds and thus requires minimal protection. The fact that quinoa can survive in an extraordinarily wide range of harsh ecological conditions, makes it a useful crop for farmers with few alternatives. However, despite its hardiness quinoa is susceptible to a variety of pest and disease problems.

HARVESTING

Harvesting takes place from April to June.

PROCESSING

Once the grain has been checked for impurities, it is soaked and washed in water to remove the bitter-tasting saponins. It is then sun-dried in traditional 'secadores' and packaged.



Economic, social and ecological aspects

In a very short period of time the cultivation of quinoa has moved from a subsistence crop to a successful export crop. On the upside, this rapid mutation has generated substantial profits for crop growers and curbed family migration to nearby cities, as they no longer have to look for work. But there is also a downside. This increase in activity is not always well controlled and has already led to permanent soil impoverishment in some plots, mainly through the use of tractors too heavy for the fragile and arid soil. Other negative effects include mono-cropping and lack of land rotation. Furthermore, the success of the crop in Bolivia is having a negative impact on llama, alpaca, and sheep breeders. Quinoa has also created conflicts over land distribution between different village communities, and the traditional collective management systems are under pressure from more individualistic-minded members of the community.

The exhibits on show are just few of many commercial products made from Quinoa:

Quinoa grains / flours / flakes
Organic pasta with quinoa
Popped quinoa with chocolate and honey
Quinoa cream
Popped quinoa

SOME PRODUCERS / RETAILERS / DISTRIBUTORS

- ❖ Irupana Andean Organic Food SA - www.irupana.com
- ❖ Anapqui - www.altromercato.it
- ❖ Quinoa Real - www.quinoareal.com.br



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