



# CAÑIHUA

(*Chenopodium pallidicaule*)



Global  
Facilitation  
Unit  
for Underutilized  
Species

enabling deployment of underutilized species



### **What is Cañihua** and where does it come from?

**Chenopodium** is a genus of about 150 species of flowering plants. It contains several plants of minor to moderate importance as food crops, both leaf vegetables and pseudocereals, including quinoa and cañihua. Cañihua, which originated in the Andes of southern Peru and Bolivia, was domesticated by the settlers of Tiahuanaco, who established themselves on the tableland of Collao. Cañihua is important on the high plateau of Peru and Bolivia because it produces grains for human consumption at between 3 800 and 4 300 meters, being very cold-resistant in its various phenological phases.

## PROPERTIES

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This grain has a high protein content (15 to 19 percent) and, like quinoa, a high proportion of sulphur-containing amino acids. It has the advantage of not containing saponins, which facilitates its processing if compared to quinoa.

### ...❖ Food Preparation

The traditional and most frequent method of consumption is in the form of lightly roasted, ground grains which produce a pleasant flour called *cañihuaco*. This is consumed on its own, in cold or hot drinks, or in porridges. Over 15 different ways of preparing the whole grain and *cañihuaco* are known (as entrees, soups, stews, desserts and drinks). In the bakery industry good results have been achieved by adding 20 percent of *cañihuaco* to wheat flour, which gives the product (bread, biscuits) a pleasant characteristic colour and flavour.

### ...❖ Health

*Cañihuaco* also has medicinal uses: it counteracts altitude sickness and fights dysentery while the ashes of its stem can be used as a repellent against insect and spider bites.

### ...❖ Other Uses

The dry stems and chaff produced when harvesting cañihua are a valued by-product for animal feeding. Gold/green dyes can be obtained from the whole plant.

## GROWING

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At present, the cultivation and utilization of cañihua are maintained at subsistence levels in the high plateau regions of Peru and Bolivia. It is a day-neutral plant and shows adaptability to several environments. Grain has been produced experimentally in Finland at lat. 40°N. The plant needs 500 to 800 mm of rain but it can also tolerate prolonged periods of drought. It displays extreme susceptibility to excessive humidity in the first stages of development. Once established, the plant is very resistant to cold and can tolerate temperatures as low as -10°C during branching, since it has an adaptation mechanism whereby the leaves cover and protect the primordia and flower stems at nightfall, thus preventing the vital parts of the plant from freezing. At the other extreme, it can tolerate up to 28°C, if it has the necessary humidity.

## HARVESTING

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Harvesting takes place when the plants change colour. It consists of cutting and laying the grain for threshing after 20 to 30 days or when it is completely dry. Threshing may be done by hand, using curved sticks and sieves, or it may be mechanized, using a stationary wheat thresher. One of the causes of its marginalization is the large number of people required to harvest it.

## PROCESSING

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The grain, which is covered with fine chaff, needs cleaning. One reason for its underutilization is its small grain size, which makes handling difficult.





## **Achieving social and ecological sustainability**

It is acknowledged that one of the ways of achieving sustainable agriculture is to maintain genetic diversity and thereby achieve a better ecological relationship. What is amazing is the fact that the pre-Hispanic cultures which ranged over the Andean highlands had domesticated a great number of species. Until now, the survival of Andean crops has been due to the existence of numerous peasant communities which still inhabit the area and which, by preserving their traditions and their ancestral knowledge of handling as well as cultivating and using these species, have managed to prevent them from being lost. Over the last 20 years, substantial work has been carried out in the field for the systematic conservation of Andean crops and their biodiversity. This work is also intended to prevent genetic erosion in the face of the advance of a modern agriculture in which homogeneity and the development of high-yielding varieties reign supreme but which applies high levels of fertilizer and makes indiscriminate use of agrochemical products. Cañihua is one such crop.

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

- Cream of cañihua
- Chocolate bars containing cañihua
- Cañihua donut
- Cañihua flour

SOME PRODUCERS / RETAILERS / DISTRIBUTORS

❖ Irupana Andean Organic Food SA – [www.irupana.com](http://www.irupana.com)



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