

# "Knowing amaranth and its high potential as a raw material in the market"

## Origin

Amaranth is a native product from Central and North America (Mexico and Guatemala) and South America (Peru and Ecuador).

It represented along with corn, beans and chia one of the main products for feeding pre-Columbian cultures of America.

For the Mayans who were the first to use what they called "xtes" and used it as a high-performance crop, especially appreciated for its nutritional value.

What is it?

Amaranth is a plant that belongs to the family and gender of amaranthaceous "Amarhantus". Amaranth is an annual crop plant that can reach 0.5 to 3 feet high; has wide and abundant bright colored leaves, spikes and purple flowers, orange, red and gold appearance.

The Amaranthaceous family gathers about 60 genres and over 800 species which characteristics change significantly, depending on the environment in which they grow, making it difficult to identify the plant. There are three species of amaranth seed producing and, in these are the most appreciated:

- *Amaranthus caudatus*: grown in the Andes region and is marketed as an ornamental plant, mainly in Europe and North America.
- *Amaranthus cruentus*: is native to Mexico and Central America, where it is mainly grown for grain. It is also consumed as a vegetable.
- *Hipochondriacus Amaranthus*: from the central part of Mexico, it is grown for grain.

The vegetative cycle of the Amaranth has an average of 180 days from germinating until the seed reaches maturity.

## Places to be cultivated in our country

The production areas and cultivation of amaranth are the same as the pre-Columbian era. Puebla is the largest producer of amaranth in Mexico with 51 percent of the total domestic production. Followed by Morelos, Tlaxcala and Mexico City. Mexico and the State of Guanajuato with 22, 18, 9, 6 and 2 percent, respectively.

## The benefits of consuming amaranth

Amaranth is a natural source of high quality protein and easy to digest, also brings a lot of energy so it is highly recommended for children who are in growth stage. Its greatest contribution calcium makes it ideal for pregnant women, or to prevent osteoporosis or menopausal discomforts people.

- Amaranth helps to regulate glucose levels and bad cholesterol in the blood making it suitable for diabetics or people with high cholesterol.
- Amaranth for its input fiber has the property for those who consume it to provoke a state of satisfaction or satiety, avoids consuming other foods, relieves constipation and improves digestion.
- Amaranth is widely used in as a light food or to lose weight because the amount of calories and composition make it superior to many other foods.

- In those with liver problems or chronic renal failure provides the essential amino acids favoring recovery.
- Provides Vitamin C preventing Flu and other diseases.
- Contains oleic acid and linoleic acid, which has a beneficial effect on blood vessels and the heart and lowering the levels of bad cholesterol.
- It is rich in minerals and that lysine helps memory , high intelligence and learning, it is low in fat, it is a dietary product, its source of carbohydrate provides energy without get on weight , it serves as a laxative and dietary fiber, and it is also is 100 % digestive .
- The leaves and amaranth seeds are used as an astringent for diarrhea and blood in the urine and bowel movements and excessive menstruation. Amaranth is also used for chest diseases, menstrual delays and against gout and similar diseases.
- It can be taken as an infusion, if the leaves are boiled in a broth. This beverage is very refreshing. The water obtained by boiling amaranth can be used for skin problems, from acne to eczema and psoriasis and urticarial. It is a good mouthwash for sore mouth, gums, teeth and throat inflammations etc.

## **Space food**

Its benefits are very important, the protein is superior to other cereal and its nutritional value would be higher than in cows' milk.

This food was selected to feed astronauts because of its high nutritional value and easy reproduction under adverse conditions because it consumes carbon dioxide and produces oxygen and water.

## **Amaranth and its properties**

Amaranth grain has about 16 % more protein than other cereals, it also has a significant 16.6 % lysine content, and even more it contains high-calorie, carbohydrates, fiber and minerals.

Amaranth brings great benefits including relatively high levels of starch from 48 to 62 %. The main component in the amaranth seed is starch the amounts rank between 50 and 60 % of its dry weight ,amaranth leaves have a high content of calcium , iron, magnesium , phosphorus, and vitamins A, B , C , B1 , B2 B3 and this makes a nice addition to grains.

Its properties, amaranth can be used as a resource to provide people with the necessary protein and calorie requirements, and currently only 20 plant species, including wheat, rice, millet, sorghum, potatoes, beans, soybeans, sugar, have these nutritious values.

According to a study conducted in 1975 by the National Academy of Sciences of the United States, amaranth is one of the 36 most promising crops in the world, therefore the same academy described it as " The best food of plant origin human consumption. "

## **What products are made with amaranth?**

From the Amaranth plant can be obtained many products, the most important is the grain amaranth, when it is burst it provides a cereal. From this cereal finished products can be obtained like: cheers, marzipan, granola bars, busted cereal and flour.

It has also been used in developing industrialized products and enriched cereals, flours, concentrates, extruded starches, oils and colorants derived from amaranth. It also serve as inputs for other food and beverage industries to produce products of amaranth, or as a raw material for industrial sectors (chemical , cosmetics , pharmaceuticals, etc.).

Recent studies showed that high gelatin fiber base made with amaranth, nopal flour and broccoli, may prevent colon cancer.

The amaranth plant is a product that can be fully exploited, it has multiple uses, applications and products:

- Vegetables: this leaves for soups and salads are obtained.
- Plant Ornaments: for making floral arrangements.
- Grain: is intended for seed, sprouts, grains, flours and industrial inputs.
- Forage: obtaining hay for animals, fertilizer for crops and nursery crops beds \* .

\* Areas defined maximum width of 1 m. (where they can get hands to perform management tasks) and variable length, inside which there sowing lines or grooves which will have a line distance between 20 to 30 cm depending on the type of vegetable to plant.

Mesografía

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“43 feria de la Alegría y el olivo 2014” Santiago Tuyehuco

Elaboración del dulce de las Alegrías



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Representación de la flor del amaranto



*Products made of amaranth*

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Amaranth plant

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