



HORCHATA / TIGERNUTS MILK

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TIGERNUTS MILK PROFILE

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1 History

Many thousands of years ago, the Tigernut, in Spanish called Chufa, was cultivated in the region of “Chuf”, between Sudan and Egypt, on the borders of the Nile river. There are documents that certify this product was there 4.000 years ago. Proof of this, is that on many occasions archaeologists found earthen ware jars containing Tigernuts in the graves of the Pharaohs.

Previously it was also cultivated in the ancient Mesopotamia, between the rivers Tigris and Euphrates. At the same time, historical Persian and Arab documents, mention de nutritive, digestive and disinfecting values of the Tigernut. During that era the Tigernut milk was classified as a medicinal drink, due to being highly energetic and diuretic, rich in minerals, predominantly phosphorus and potassium, and also vitamins E and C.

But we have to wait until the VIII century, when Arab traders, introduced the cultivation of Tigernuts in the Mediterranean region of Valencia (Spain), for the elaboration of Tigernut Milk (leche de chufa), to know the Tigernut cultivation as it arrived to our days.

The grainy sandy ground in the Valencia region and the mild temperatures, are special for the cultivation and growth of this earth tuber.

We at Tigernut Traders in Valencia, feel it appropriate to take this earth tuber back to its roots. Meaning, returning the nutritious values of this vegetable nut, back to its origin, in most of the Arabian and African countries. Tigernut milk being a purely natural vegetable drink,

and being highly nutritious would make it an ideal drink during the holy month of fasting, de Ramadan.

2 Introduction to the TIGERNUTS

Tigernuts are small tubers (latin name “Cyperus Sculentus Lativum”) used in many different ways, but principally as the base for “**Horchata**”, an extremely popular drink on the Mediterranean coast.

The sweet taste of Tigernuts also makes them a great snack which can be prepared by soaking the tuber in water for a few hours.

Dimensions: From 8 mm. – 16 mm, smaller sizes are not used for human consumption.

Shape: Long or round shaped. Properties however remain the same and are equally nutritious.

Colour: Brown

Cut (When eating):

- When hydrated it has a smooth tender, sweet and refreshing taste.
- When dehydrated it's slightly harder (nut texture), but with a rather more intense and concentrated taste.

Flavour: Sweet and intense.

Cultivation period: From March to December

Characteristics:

- As explained before, the Tigernut is a tuber, which means it grows in the soil.
- Being cultivated through continuance irrigation, they have to be properly dried before storage. The drying process is completely natural, meaning “sun-dried”, which process can take up to one month. The dehydrating process ensures a longer shelf time, prevailing rot or any other bacterial infection, securing therewith their quality and nutrition levels.
- Unfortunately, the dehydration process makes the Tigernuts skin wrinkled.



Tigernut Seed



Tigernut Plant

3 The tigernuts milk / horchata (product profile)

The Tigernut milk (its Latin name "*hordeàta*" from barley), its Spanish name "Horchata", is a refreshing vegetable drink and/or desert, which is prepared with water, sugar and Tigernuts.

It is a very nutritive and energetic drink, both for young and old. It is a tremendously high in starch, natural fat, glucose and proteins. Also rich in minerals like, potassium, phosphorous, vitamin E and C.

Tigernut milk contains a large amount of oleic acid, and is cardiac preventive.

It defends the intestinal mechanisms, and prevails both constipation and diarrhoea.

In face of Soya milk or other Soya products, Tigernut milk has never been found to produce any allergy.

It contains no sodium, which makes it perfect for people with high tension.

There are different ways you can find this product presented:

- Natural tiger nut milk: Is the one prepared with the right amount of tiger nut, water and sugar for the product to have a minimum of 12% soluble solids, 2'2% of starch, 2'5 of fats, 6'3 de pH and less of the 10% of sugar in form of sucrose.

- Pasteurized natural tiger nut milk: Is the one submitted to a treatment of pasteurization below 72°C, without adding additives or technologic fertilizers. Its composition is the same as the first one.

- Sterilized tiger nut milk: Is the one obtained after submitted the tiger nut milk to a technological process which transforms or eliminates totally or partially its contents of starch, and processed after its packaging with a thermal treatment which ensure the destruction of microorganisms and inactivity of its forms of resistance.

- UHT tiger nut milk: Is the one submitted to a process for eliminating the starch and processed by a thermal treatment UHT which ensure, after its aseptic packaging, the destruction of microorganisms and its forms of resistance.

- Concentrate tiger nut milk: Is the one with the appropriate proportions of tiger nut, water and sugar to obtain a product with a minimum concentration of dissolver solids of 42% and a 6 pH, which by dissolution with water permits obtain a product with the same characteristics of the natural tiger nut.

- Condensed tiger nut milk: It could be pasteurized (minimum 60% of dissolver solids, 4'2 of starch and 5'4 of fats) or frozen (minimum 50% of dissolver solids, 5'4 of starch and 7'2 of fats).

4 Production Process

Selection of the Tigernut

The Tigernut used must comply with the minimum requirements in selection, size, weight and optimum harvest time, which guarantees the final quality product.



Washing and hydrate

Afterwards, the Tigernuts are washed by specially designed machinery, and once completely clean are bathed in germicide. Later on they are washed again and rinsed thoroughly and then passed through a process of hydrate which lasts several hours.



Juice Extraction

The Tigernut is triturated with added water and squeezed with special pressing and sifting equipment.
This way, we obtain a thick and milky liquid, mainly rich in fats and starch.



Mixture of juice and sugar

The juice that comes from the extraction is placed in mixers where the sugar is added. This mixture is kept shaken up long enough to obtain a fully consistent product.



Conservation

After obtaining the final product (Natural) it's very important, if it's not going to be consumed along the same day, to keep it in constant movement at low temperatures with special mixers or frozen.

5 Analysis

STARCH	1,12 %
VEGETABLE FAT	1,30 %
CARBOHYDRATES	12,60 %
PROTEIN	0,35 %
ASHES	0,10 %
FIBRE	0,38 %

ENERGETIC VALUE 132 cal.

* Average rates for a 200 cc. glass of liquid "Horchata"

6 Tigernuts Milk beneficial properties

- The tiger nut milk it is not just a fresh drink, comparing it with any other soft drink, is very healthy.
- Contributes with the cholesterol reduction. Diminishes the "bad" cholesterol LDL, and increases the "good" one HDL thanks to its contribution of oleic acid (contributes with the same amount as the olive oil). Its content in vitamin E also collaborates against the cholesterol because it has got an antioxidant effect over the fats. Ideal so for heart illness.
- It is good for the arteriosclerosis thanks to, in one hand the oleic acid and in the other hand it contains Arginina, which being precursor of nitric oxide helps to the vein expanded effect.
- Tiger nut milk without sugar can be drunk for diabetics, for its content in carbon hydrates which a base of sucrose and starch (without glucose) and due to its high content of Arginina which liberates the hormone that produces the insulin.
- Ideal drink for people who are not able to take gluten and also for those who are not able to take cow's milk and derivatives.
- It is recommended for those who have heavy digestions, flatulence and diarrhoea because it provides us a lot of digestive enzymes like the catalasa, lipase and amilasa.

Tiger nut milk nutritious information in each 100ml.

- It is rich in minerals, like the phosphorus, calcium, magnesium, iron ore, and in vitamins like C and E.
- It provides as well a lot of enzymes which make the digestion easier.
- Its energetic value (100kcal /100gr) makes it a very good energetic drink.
- A very important point is that it doesn't contain any sodium.
- It doesn't contain lactose, casein or gluten.