

DE LA SEMILLA A LA PLUMA

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Nixtamalization: the age-old tradition that makes a good tortilla

The nixtamalization of maize is an ancient process that the peoples of Mesoamerica have used for more than a thousand years. The process has changed throughout time and differs from place to place, but the basic idea stays the same: maize is cooked in an alkaline solution that changes the grain's chemical composition and consistency and thus facilitates the making of tortillas, as well as offering nutritional benefits. Back in the day, people used the leftover ashes from woodfire cooking, something that is still reflected in the name, originating from náhuatl, that is made up of the words nixtli for ashes and tamalli for dough. Later, communities found out that the process also works with quicklime or calcium hydroxide, whose use is the most common nowadays. In some areas of southeast México ground up seashells were also used.



Fotografía: Milena Garbers

Benefits

It is likely that nixtamalization emerged as a way to soften grains of maize and thus make possible the creation of a flexible dough that serves for preparing tortillas. However, **not only the texture of maize is impacted, but the process also improves the taste** and smell of the dough and the products made with it. It is thanks to this process that today we can eat a large variety of delicious foods made with maize, like tortillas, tamales, tlacoyos, atoles, gorditas, sopes, huaraches and much more.

La nixtamalization also **offers nutritional benefits**. It increased the availability of calcium and amino acids. For example, it makes vitamin B3 o niacin more accessible during consumption, which prevents the development of the disease pellagra that is common in other parts of the world where maize is the primary grain consumed. Additionally, the process decreases the presence of phytic acid, a component that hinders the absorption of nutrients present in maize. Furthermore, there are scientific studies which have discovered the usefulness of nixtamalization to neutralize the aflatoxins sometimes found in maize, which is a type of mycotoxins that can present grave consequences for human health. Finally, the process also enables **dough and tortillas to stay good for a longer period of time**.



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Steps of the nixtamalization process

There isn't one single way to prepare nixtamal, it's always dependent on the type of maize, the environment, and personal preferences. Generally, however, the process begins with the **selection of corn kernels**. Ideally, they are from native maize varieties, from the milpa and free of agrochemicals to protect the environment, our health, and our cultural traditions. After **cleaning the corn kernels**, removing impurities like dust and, if necessary, the maize is washed.



The next step is the most important – **cooking the maize in alkaline water**, normally with a concentration of one to three percent of **lime** in order to obtain a good consistency and a delicious flavor. The corn kernels are put in a pot (mostly made of stainless steel) with water and the lime diluted in water. Everything is cooked for somewhere between 20 minutes and an hour on low. The time required depends on how hard the kernels are. When the maize reacts with the alkaline water, it immediately **changes color** to look more yellow. This reaction is what ensures that the maize becomes softer, and the husk loosens.



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After cooking the kernels, they are **left to soak in the same alkaline water** for about twelve hours. During that time the corn absorbs water, grows in size and the husk loosens. Then, **the maize is drained and perhaps rinsed** in order to remove excess lime. The alkaline water that is leftover is called nejayote and can be saved and used later on to add moisture to the dough while it's being ground.



The next step consists in **grinding the maize to make nixtamalized dough** that can be used for tortillas and many other preparations, dependent on the diverse culinary traditions that exist in different parts of the country. The corn kernels can be ground in a stone metate (a grinding stone) or in a mill, either manual or electric. To the mixture that results a bit of water (or nejayote) is added, it's kneaded and then it's ready to be used as desired.

Nixtamalization nowadays

Even though food culture is dynamic and always changing, **the nixtamalization process has been essential for Mesoamerican cultures** since a long time ago and is still very common today. However, the industrialization of the food system has provoked an acceleration and commodification of many processes, creating a food system increasingly characterized by convenience at the expense of traditional practices.

More and more tortillas are produced industrially in large quantities with nixtamalized flour instead of nixtamalized dough because it's cheaper and faster. This mostly benefits large companies that produce said flour, which oftentimes is **made of corn grown on an industrial scale using many agrochemicals**. Tortillas made from flour tend to have more additives, as well as an inferior taste and nutritional value.

Preserving the process of nixtamalization helps to protect the quality of the final product – it's a matter of strengthening the ancient culture behind it that includes **the cultivation of native maize in milpas all the way up to the preparation of corn-based foods that are tasty and culturally significant**. Nixtamalization is an immensely intelligent, valuable, and delicious process – a gift from our ancestors that demonstrates the cultural and nutritional value of maize. That's why it deserves to be defended and celebrated for the well-being of all the people living in México.

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