



Maya Technique of Maize Fortification

Why in News?

A study has thrown light on how [Maya people](#) fortified their maize with the chemical process known as 'nixtamalisation' and also built indoor toilets in pits they dug into the limestone bedrock of the **Yucatan peninsula in Mesoamerica**.



Who were the Mayas?

- The Maya are an **indigenous people of Mexico and Central America** who have continuously inhabited the lands comprising modern-day Yucatan, Quintana Roo, Campeche, Tabasco, and Chiapas in Mexico and southward through Guatemala, Belize, El Salvador and Honduras.
 - The Maya are probably the best-known of the classical civilizations of Mesoamerica.
- The Maya civilization **originated in the Yucatan Peninsula**. Known for its monumental architecture and an advanced understanding of mathematics and astronomy.
- The rise of the Maya began about 250 CE, and what is known to archaeologists as the Classic Period of Mayan culture **lasted until about 900 CE**. At its height, Mayan civilization **consisted of**

more than 40 cities, each with a population between 5,000 and 50,000.

- But then, suddenly, between 800 and 950 CE, many of the southern cities were abandoned. This period is called the collapse of the Classic Maya civilisations, puzzling modern-day scientists.

▪ **Special Features:**

- As early as 1500 BCE the Maya had settled in villages and had developed an agriculture based on the cultivation of **corn (maize), beans, and squash; by 600 CE cassava (sweet manioc)** was also grown.
- They began to build **ceremonial centres**, and by 200 CE these had developed into cities containing temples, pyramids, palaces, courts for playing ball, and plazas.
- The **ancient Maya quarried immense quantities of building stone** (usually limestone), which they cut by using harder stones such as chert. They practiced mainly slash-and-burn agriculture, but they used advanced techniques of irrigation and terracing. They also **developed a system of hieroglyphic writing and highly sophisticated calendrical and astronomical systems.**
- The Maya made paper from the inner bark of wild fig trees and wrote their hieroglyphs on books made from this paper. Those books are called **codices.**
- The Maya also developed an elaborate and beautiful tradition of **sculpture and relief carving.**
- **Architectural works and stone inscriptions** and reliefs are the chief sources of knowledge about the early Maya.

What is the Nixtamalisation Technique used by Mayas?

- Nixtamalisation is a method by which the ancient peoples of Mesoamerica like the Maya **used to soak and cook their maize in an alkaline solution** and make it more palatable, nutritious and non-toxic. Nixtamal is derived from the Nahuatl word nextamalli, meaning 'nixtamalised maize dough'.
- Maize is the primary crop of the Americas and has been cultivated in the region for millennia. **Maize, beans and squash** are called the '**Three Sisters**' and formed the basis of diets throughout pre-Columbian North and Mesoamerica.
- The researchers noted that the key **reason for the spread of maize** in the **Americas** was nixtamalisation.
- The process ensures that the maize contains amino acids, calcium and **Vitamin B2**, which can be utilised by the human body. It also eliminates certain mycotoxins (**toxins produced by certain moulds (fungi) and can be found in food**) present in maize.
- Without this treatment, maize-dependent populations were at elevated risk of **pellagra** (Vitamin B2 deficiency), calcium deficiency and mycotoxin poisoning.
- **Nejayote**, wastewater from nixtamalisation, may have been **used to lime the chultunes** while they were used as latrines. This was done to **control odours and inhibit insect** and microorganism growth like it is done today.

Source: DTE

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