

EVERYTHING ABOUT PULQUE

AGAVOLOGY

'Water from the green plants...'

Tequila's predecessor, [pulque](#), or octli, was made from as many as six types of agave grown in the Mexican highlands. Pulque is one of about thirty different alcoholic beverages made from agave in Mexico - many of which are still made regionally, although seldom available commercially. The drink has remained essential to diet in the central highlands of Mexico since pre-Aztec times.

Pulque is like beer - it has a low alcohol content, about 4-8%, but also contains vegetable proteins, carbohydrates and vitamins, so it also acts as a nutritional supplement in many communities. Unlike tequila or mezcal, the agave sap is not cooked prior to fermentation for pulque.

Pulque, is an alcoholic spirit obtained by the fermentation of the sweetened sap of several species of 'pulqueros magueyes' (pulque agaves), also known as Maguey Agaves. It is a traditional native beverage of Mesoamerica. Though it is commonly believed to be a beer, the main carbohydrate is a complex form of fructose rather than starch. The word 'pulque' comes from the Náhuatl Indian root word *poliuhqui*, meaning 'disturbed'.

There are about twenty species of agave and several varieties of pulque. Of these there was one that was called "metlaloctli" ie "blue pulque," for its colouration.

Plant Sources of Pulque

The maguey plant is not a cactus (as has sometimes been mistakenly suggested) but an Agave, believed to be the **Giant Agave** (*Agave salmiana* subspecies *salmiana*). The plant was one of the most sacred plants in Mexico and had a prominent place in mythology, religious rituals, and Mesoamerican industry. Pulque is also made from the **Desert Agave** (*Agave deserti*), the **Century Plant** (*Agave americana*) and the **Mountain Agave** (*Agave atrovirens*).

Gentry [1], p. 13, lists several of the members of the Agave family that were commonly used to produce pulque: **Giant Agave** (*Agave salmiana*), a smaller leafed plant grown near Puebla, Tlaxcala and on the plains of Apam. **Mapisaga Agave** (*Agave mapisaga*), a large leafed giant plant often grown along with *Agave salmiana* in the Michoacan, Morelos, Puebla, Michoacan and Zacatecas regions. **Mountain Agave** (*Agave atrovirens*), grown in the cool mountain regions of the Sierra Madre Oriental, Oaxaca, and possibly Puebla and Vera Cruz regions. **Fierce Agave** or **Green Goblet Agave** (*Agave ferox*), grown in Puebla and the Oaxaca areas. **Hooker's Agave** (*Agave hookeri*), cultivated in the highlands of Michoacan. **Century Plant** (*Agave americana*), a plant well suited to the arid regions near Nuevo Leon, and Durango as well as cultivated near Michoacan and Oaxaca. Gentry further lists a chemical breakdown of pulque listing a product that is high in iron, carotene, thiamine, riboflavin, niacin, ascorbic acid, protein, calcium, phosphorus, and ash.

The Making of Pulque

Pulque is fermented from the uncooked agave syrup or nectar that collects in the hollowed head of the plant. Fermentation using natural yeast can take up to 10 days, and a small amount of the final product is saved as a starter for the next batch. The aguamiel has about 10% natural sugars. It is fermented but not distilled, resulting in a sweet, milky and fruity drink, rich in vitamins but prone to going sour from continued fermentation by airborne yeasts. Its content is 100% natural, providing thiamine, riboflavin, niacin, pantothenic acid as well as helpful microbes to aid digestion.

To harvest the agave sap, the tlachiquero cuts a cavity into a ripe (10-12-year old) maguey piña. The sap (aguamiel) flows into this hollow and is siphoned off by hand using a long-necked gourd (acocote) or a hollow stick of bamboo and carried in a pitcher (apilote). An agave may produce five to eight litres of sap a day, but it has to be collected frequently because natural fermentation from airborne yeasts and bacteria will start.

A good maguey can last up to a year, or even say some sources, as long as three, and will continue to produce many liters of aguamiel during that period. However, most agaves last four-six months.

The sap is collected in a wooden barrel and fermented overnight in a place called a tinacal (a place where the tinas, or fermentation tubs, are stored). Sometimes it is fermented with cultivated yeast, but more often

from naturally-occurring yeasts (from the air or the leaves of the maguey).

Medicinal Qualities

A study of the diet of the Otomi Indians found pulque their single largest source of vitamin C and second only to tortillas in its contribution of calories, thiamin, riboflavin, niacin, calcium, and iron. A recent dietary study in the Solis Valley found that the iron absorption-enhancing effect of pulque's ascorbic acid makes it the single best predictor against anemia. Researchers have also inferred the presence of folic acid in pulque.

Pulque may help reduce inflammation: precursors for the synthesis of steroidal hormones such as cortisone have been isolated from certain species of Agave (esp. *A. americana*). Known as 'steroidal saponinins', these compounds - namely tigogenin and hecogenin - have recently been investigated for their bioactivity in reducing inflammation.

Traditions of Pulque

Pulque is a typical drink of Mexico, consumed by indigenous and racially mixed populations in many regions of the country, particularly in the areas of the central plateau. Pulque is depicted in Native American stone carvings from as early as 200 AD. Prior to the Spanish conquest, the Aztecs consumed it at religious ceremonies.

Manuscripts written by the Tlacuilo Indians tell the importance of maguey in pre-Hispanic cultures. This natural wonder produced diverse necessary elements for living such as food, dress, roofs and paper. It also gave pleasure and was believed to cure ailments.

Pulque is also named as follows: *Meti* in Nahuatl, *tacamba* in Purepecha and *guada* in Otomi languages. The nobles were only one who knew the *magueys*, *mezcales* or *agaves*. The most precious one was the kind which had *necutli* which is the sap or juice, known as *aguamiel*, which is fermented to get *octli* a ritual intoxicating drink. Pulque was the drink of the wise ones, priests and warriors.

Old people over fifty and sick people drank it, or women after parturition. According to the Florentine codex, *pulque* was drunk in special celebrations such as the harvest collection, ceremonies for making rain fall, marriages, births, burials and honor parties for some gods.

The origin of pulque is unknown, but because in the time of the Aztecs this drink had a very important religious meaning, many folk tales explain its origins. According to one pre-Columbian legendary account, during the reign of Tecpancaltzin, a Toltec noble named Papantzin discovered the secret of extracting *aguamiel* from the maguey plant.

One account holds that pulque was used as an offering to the god Mayahuel, deity of pulque. Another declares that in the Aztec pantheon of deities, pulque production was represented by the god of pulque, Tepoztecatl, and the gods of drunkenness, such as Macuil-Tochtli or Five Rabbit and Ometochtli or Two Rabbit, both part of the pantheon of Centzon Totochtin, the four hundred rabbit gods of drunkenness. The Aztecs rated pulque intoxication on a scale of one to 400 rabbits. A tradition in pulquerías is for drinkers to slop a small amount of the pulque in their glass on the floor as a sacrifice to Two Rabbit.

With the fall of the Aztec empire pulque lost its importance within the religious rituals and at the present time it remains only as a popular drink

Cuapatle or Ocpatli

Pulque served as the base for a wide variety of mixed drinks during the Spanish colonial period in Mexico. Certain roots and other plant parts were mixed in to make the pulque stronger, spicier, hotter and more intoxicating. It is said that one of these vegetable additives was a bark called 'cuapatle', or 'ocpatli', (possibly acacia?) also known as 'aderezo del vino' (wine dressing). Other accounts hold that when intoxicating plants and herbs were added to pulque; the word 'ocpatli' was used to describe these mixtures. Colonial Spaniards prohibited these additives. They also restricted the use of *pulque* and from being the wine of gods it became a popular drink. Its original name changed for *pulque* (from Nahuatl *poliuhqui*, spoiled) for being unable to differentiate *aguamiel* from the drink which had been through a fermentation process.

Tepache

'Tepache' could mean almost any mixed drink with a sour pulque and brown sugar base was widely consumed in rural centres.

Pulque Manufacture

Pulque is made in the following fashion: When the plant's flower stem shoots up, it is hollowed in the centre. Normally, 8 to 10 years are required for the plant to mature to the point where this can be done. The juice 'aguamiel' (honeywater), that should have supplied the flowers, is taken from it daily for a period of about two months. The aguamiel is then fermented (usually in large barrels inside in a building known as a tinacal which is specially reserved for pulque fermentation), after which it is immediately fit for drinking.

Pulque is a spirit, white and thick, from the plateau of Mexico, obtained by fermenting the 'aguamiel', or extracted juice of the maguey agave in an 'acocote' (a long-necked container, traditionally a gourd, for siphoning aguamiel from scooped out section of maguey agave to make pulque). Its consumption varies in accord with the taste of the consumer, as well as the occasion. The main consumers of pulque are people of low economic resources, although during festivals it is also consumed by the middle-class as an accompaniment to traditional food. This drink has a great nutritional importance, because of its high content of protein and vitamin B complex.

Pulque Today

Due to its great economic and social importance, pulque is most studied indigenous fermented drink of Mexico. Pulque is usually sold directly in bulk from the tinacal (place of production), or by serving from a type of cantina (restaurant) known as a pulquería. Traditionally in pulquerías, pulque is served in a glass known as a tornillo (screw, for its shape) or a bowl known as a jicara.

Pulque is still made and drunk in limited quantities in parts of Mexico today. However, because it cannot easily be stored or preserved (its character and flavor change over a short period of storage time, as little as a day), it is not well known outside the country. A process for preserving and canning pulque has been developed, and now canned pulque is being exported to the US in limited quantities (see photo); the alcohol content of the canned product is 6%. Aficionados of pulque usually consider the canned varieties to be inferior. Often pulque is mixed with fruit juices such as mango and pineapple - in which case it is called a curado - to render it palatable to those who do not appreciate its unusual flavor. There is a huge variety of *pulques* and its elaboration varies according to the cultural tradition of the place where it is drunk. White *pulque* is the base, seeds, vegetable, fruit, cereals and brown sugar are added to it. Nowadays there are even bottled soft drinks. In addition to common pulque, Mexicans consume '[pulque curings](#)', which are made by adding assorted vegetables and fruits during the fermentation.

Pulque has inspired sayings and popular songs like the following one:

'Water of the green bushes,
you fall down to me,
you kill me,
you make me walk on all fours.'

Differences between Pulque, Mezcal and Tequila

Mezcal (or mescal) is the name given to a double-distilled spirit which comes from the maguey plant. Today there are well defined and regulated regions (A.O.C.) for both mezcal and tequila in Mexico. Tequila is a mezcal, made only from the blue agave plant, from the region of southwestern Mexico around the town of Tequila, Jalisco. Aguamiel (from which pulque is made) is the natural juice of the maguey plant, whereas mezcal is the clear spirit made out of the heart of the plant itself. The flavor is either bitter or sweet, depending on how one prefers it. If one enjoys it strong then it is drunk neat (or in its undiluted form), and if not a bit of honey is added.

Medicinal Uses

Traditionally pulque has been assigned medicinal qualities; it has been used to treat some gastrointestinal disorders, renal problems and infections