

Microbial communities participating in Mezcal production. Environmental reservoirs contribution, fermenting consortia, and flavour contribution

Date added: 27 August 2025

Last modified: 27 August 2025

Project type: Samples

Project visibility: Public

Local Contexts Project ID: ff716008-6aee-46e1-bcc4-2a03d265b0d3

Project page URL: <https://localcontextshub.org/projects/ff716008-6aee-46e1-bcc4-2a03d265b0d3>

Added by: Yuri Jorge Peña-Ramírez | | Researcher

Project Contact: Yuri Jorge Peña-Ramírez | ypena@ecosur.mx

Contributors:

Project Description:

Mezcal is a spirit beverage produced by traditional families from nine states of Mexico. Its production relies on indigenous microorganisms responsible for the spontaneous fermentation of cooked stems from plants belonging to the genus Agave. Several studies have focused on characterizing the fermenting consortia; however, the environmental reservoirs of the microorganisms remain understudied. For us, our interest is focused on characterizing microorganisms located in microenvironments surrounding traditional factories, such as soil, plant endophytes, utensils, water, and insects, as well as the family roles linked to the maintenance of these microenvironments. Our results suggest that cross-“contamination” procedures carry microorganisms responsible for fermentation from all these sources to the cooked juices. We hypothesize that the uniqueness of these microenvironments is accountable for the heterogeneous and unrepeatable sensory profile of each batch of Mezcal; moreover, it is responsible for the beverage's terroir.

Project Notices

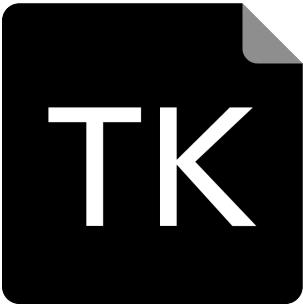


Biocultural Notice

The BC (Biocultural) Notice is a visible notification that there are accompanying cultural rights and responsibilities that need further attention for any future sharing and use of this material or data. The BC Notice recognizes the rights of Indigenous Peoples to permission the use of information, collections, data and digital sequence information (DSI) generated from the biodiversity or genetic resources associated with traditional lands, waters, and territories. The BC Notice may indicate that BC Labels are in development and their implementation is being negotiated.

Notificación BC (Biocultural) (Spanish)

La Notificación BC indica de manera visible que hay derechos y responsabilidades culturales asociadas que necesitan mayor atención en caso de cualquier instancia en la que el material en cuestión es usado o compartido. La Notificación BC reconoce los derechos de personas y comunidades Indígenas para definir las circunstancias bajo las cuales permitir el uso de información, colecciones, datos, e información de secuencia digital generada desde las formas de biodiversidad y recursos genéticos asociados con tierras, aguas y territorios tradicionales/ancestrales. La Notificación BC indica que las Etiquetas BC (Bioculturales) están en desarrollo y que su implementación está siendo negociada. Para mayor información sobre las Etiquetas BC por favor visitar <https://localcontexts.org/notices/biocultural-notices/>.



Traditional Knowledge Notice

The TK (Traditional Knowledge) Notice is a visible notification that there are accompanying cultural rights and responsibilities that need further attention for any future sharing and use of this material. The TK Notice may indicate that TK Labels are in development and their implementation is being negotiated.

Notificación CT (Conocimiento Tradicional) (Spanish)

La Notificación de CT indica de manera visible que existen derechos y responsabilidades culturales asociados que requieren mayor atención en el caso de cualquier forma de uso y circulación futura de este material. La Notificación de CT tiene el potencial de indicar que Etiquetas de CT están siendo desarrolladas y su implementación está siendo negociada. Para mayor información sobre las Etiquetas CT por favor visitar <https://localcontexts.org/notice/tk-notice/>.