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[The agri-food system of the agave pulque in the municipality of Jiquipilco, Mexico in the framework of the OneHealth vision.]

[The maguey or agave ssp. is considered an endemic species of Mexico and an iconic element of Mexican culture. In the centre of the country the cultivation of agave pulquero (agave salmiana and a. atrovirens) prevails, from which aguamiel (sap that emanates and is collected from the centre of the maguey) is extracted, from the spontaneous fermentation of the aguamiel pulque is produced (traditional drink, of low alcoholic content, whitish colour and thick foamy texture). The municipality of Jiquipilco in the State of Mexico is a territory with a wide regional and national recognition in the production of pulque agave, aguamiel and pulque, as well as cultural tourism expressions that revalue the agro-food culture of this ancestral drink. The cultivation of the pulque agave has been recognised as a promoter of the environmental conservation of the territory and its products are associated with health benefits and sustainable livelihoods. For this reason, the pulque agave production system can be considered as one of the systems best adapted to the One Health approach, which is a way of thinking that interrelates environmental health, plant and/or animal health and human health. Therefore, the present research sought to document the agri-food system of the pulque agave in the municipality of Jiquipilco around the One Health approach, with the purpose of characterising a traditional food production system that is adapted to the integral maintenance of health and has remained almost intact for thousands of years. An observational study was conducted with 14 producers in the municipality of Jiquipilco, in the period August to November 2021. Information was collected through participant observation and semi-structured interviews with maguey producers, in order to identify the environmental, nutritional and economic benefits associated with the production and consumption of the main agave-derived products used in the territory. The results showed that the agave pulquero production system can bring multiple benefits to the integral health of the territory from a One Health perspective, since the cultivation of maguey is associated with positive impacts on the health of the environment such as: attraction and maintenance of pollinators, capture and retention of rainwater, formation and retention of agricultural soil, protection against erosion, among others; and the consumption of its products is related to health benefits, pulque is associated with better digestive health and better performance of the immune system as it regenerates the intestinal microbiota and mead is recognised as a substitute for cane sugar for consumption by people suffering from diabetes. Similarly, agave reforestation has been intensified, which contributes to the sustainability of the production system, as well as to the use of the agrosilvopastoral environment, which provides the association of this crop with other wild and cultivated plant species, which are used in the diet of humans and animals, providing significant ecological interactions. Different phytosanitary management systems of the agave pulquero plantations were also observed. In one group, some production units have adopted the use of chemical ingredients for the control of pests and plant diseases, while others have learned to make organic mixtures with maguey wastes to be used as natural fertilisers. Thus, it is

concluded that the agave pulquero production system has great benefits for the environmental health of the territory, and that its products provide health benefits for consumers and livelihoods for the local population. However, it is necessary to research and develop new phytosanitary management practices for the pulque agave so that this agri-food production system can be an integral reference for the OneHealth approach.]

Bibliographic references