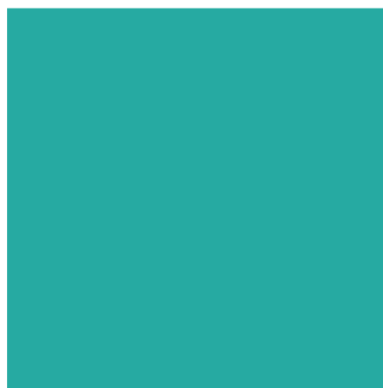


BOOK OF ABSTRACTS

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Processing variations for mahewu, an indigenous LAB fermented maize beverage suggest use of sorghum and millets to replace maize

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Abstract

Lactic acid bacterial fermentation is a common traditional maize processing technology in Sub-Saharan Africa. However, the long-term sustainability of maize-based food systems is under threat from climate change, hence the increased interest in sorghum and millets as maize alternatives in popular local foods. This study surveys processing practice variation and resultant microbial community composition variations in mahewu, a traditional lactic acid fermented maize beverage from Zimbabwe, seeking if potential exists for replacing maize with sorghum and millet as base raw material. A cross-sectional survey with 124 respondent from five districts was conducted using focus group discussions and personal interviews; and mahewu samples collected from each respondent to profile microbial community composition (amplicon sequencing) and aroma profiles (GC-MS). Although Mahewu is produced using the same processing steps across the country, variation exists in the base ingredients used for the porridge cooking step. Maize was the most preferred although sorghum and pearl millet were also used. The study has shown that it is possible to substitute maize with sorghum or millets in the production of mahewu. The effects of such a substitution on the microbial composition of mahewu will soon be determined. Our study will inform both the scientific community as well a policy makers on avenues of climate resilient food system transformation and the potential role of LAB in enabling use of different raw materials for processing of traditional cereal based fermented foods.

Keywords

Microbial communities, spontaneous fermentation, cereals, climate change