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Probiotic potential of traditional fermented foods in Zimbabwe

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Zimbabwe, like many traditional societies, has several traditional fermented foods and beverages that are produced at the household level. These include fermented maize porridges, fermented milk products, alcoholic and non-alcoholic cereal-based beverages, distilled spirits and fermented fruit juices. Lactic acid bacteria and yeasts are largely responsible for the fermentation of these products. Probiotic bacteria are commonly found together with other lactic acid microorganisms, suggesting that probiotic bacteria may be present in the traditional fermented foods of Zimbabwe. Therefore, the isolation and characterization of lactic acid bacteria from traditional fermented foods produced at the household level in Zimbabwe is being reviewed, giving particular attention to earlier studies that provide evidence of lactic acid bacterial isolates with antagonistic properties against foodborne pathogens. *Lactococcus lactis* subsp. *lactis* biovar. *diacetylactis*, isolated from traditionally fermented milk, was found to have antimicrobial properties against pathogenic *Escherichia coli* 3339 and *Salmonella enteritididis* 949575. The inhibitory effects of traditional fermented foods which have been studied and documented are: traditionally fermented milk against *Listeria monocytogenes*; *mahewu* and sour porridge against *Aeromonas* sp., *Campylobacter jejuni*, *Salmonella* sp.; and *mukumbi* against *Salmonella enteritidis, Shigella sonnei* and *Shigella flexneri*. These observations suggest that traditional fermented foods may contain probiotic bacteria that potentially could be used in diarrhoea management and/or for other health benefits. This article reviews the available information on the microbiology of traditional fermented foods produced in Zimbabwe and makes recommendations for potential research areas on possible applications of probiotic bacteria in developing commercial traditional fermented foods.

Biography

Felicitas Pswarayi holds an M.Sc. in Food Technology from the University of Reading, United Kingdom. She has had a long career in the food manufacturing industry with a wide range of varied work experiences before joining the University of Zimbabwe in 2008, where she now teaches Food Science and Technology. Felicitas teaches several undergraduate courses including Food Microbiology, Food Toxicology, Food Fermentations, Fruit and Vegetable Technology, Food Analysis and Sanitation and Legislation. Felicitas chairs the technical committee on management systems for food safety at the Standards Association of Zimbabwe.

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