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Probiotics in traditional fermented non-alcoholic Turkish beverages

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Abstract

Fermented foods are considered as important on human diet. However, the studies on traditional Turkish fermented beverages and their lactic microflora are limited. The microflora of these beverages is mainly composed of lactic acid bacteria (LAB) with probiotic potential. Shalgam juice made of turnip, black carrot, bulgur, flour salt and water, which contains *Lactobacillus plantarum, Lb. brevis* and *Lb. paracasei subsp. paracasei* predominantly. Hardaliye is a kind of grape based non-alcoholic traditional beverage. The raw materials of these beverages are red grape or grape juice and crushed black mustard seed and cherry leaves. *Lactobacillus paracasei* subsp. *paracasei* and *Lb. casei* subsp. *pseudoplantarum* were predominant bacteria in hardaliye. Boza is a cereal based beverage. Millet, maize, wheat, or rice semolina or flour are used in the production of boza. Both yeast and LAB fermentation are observed in boza. As probiotic microorganisms of boza are concerned, *Leuconostoc mesenteroides*, *Lb. acidophilus, Lb. plantarum, Lb. paracasei, Lb. pentosus, Lb. rhamnosus* and *Saccharomyces cerevisiae* were found. Ayran is produced by the fermentation of milk with *Streptococcus thermophilus* and *Lb. delbrueckii* subsp. *bulgaricus*, as starter cultures. Kefir is a fermented dairy product similar to ayran. However, fermentation process of kefir involves LAB and yeasts. Most of LAB in kefir have been considered as probiotic bacteria such as *Lb. acidophilus, Lb. casei, Lb. kefiranofaciens, Pediococcus acidilactici, Lactococcus lactis*. In this study the lactic microflora, selection of cultures as a starter and probiotics will be discussed in detail.

Biography

Dilek Heperkan has completed her PhD in 1986 from Egean University, Turkey. She worked as a researcher for 10 years in TUBITAK, National Scientific and Research Council. She participated as a member of World Working Party of Mycotoxin (2002-2007). She worked as a visiting scientist in the USA in 2001. She also visited Universite de Vigo, Spain and gave lectures by Erasmus Programme in 2007. She organized a number of national and international meetings. Recently, she organized 23rd International FoodMicro 2012 Congress together with ICFMH. She is currently working as a full time Professor in Istanbul Technical University, Food Engineering Department.