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The importance of using authentic kefir grains in kefir production

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Kefir is a significant functional fermented dairy product with health attributes. It is authentically produced by fermentative activity of kefir grains that have the diverse range of microorganisms. It is a self-carbonated refreshing fermented milk drink, which has a unique taste due to a mixture of lactic acid and other flavor products during both lactic acid and ethanol fermentations. Kefir grains have a stable and certain balance of microorganisms that exists in a complex symbiotic relationship in miniature cauliflower shaped semi-hard granules. When kefir grains grow in milk, microorganisms are shed from the grains into milk where they continue to grow with the production of the lactic acid, flavor and physicochemical changes. The miraculous grains grow in the process of original kefir manufacture from pre-existing grains. After subsequent fermentation with fresh milk biomass of kefir grain slowly increases. The most common species of Lactobacilli are *Lactobacillus kefir*, *Lactobacillus kefiranofaciens*, *Lactobacillus kefirgranum*, *Lactobacillus parakefiri* and *Saccharomyces* spp., *Kluyveromyces marxianus*; these are characteristic microorganisms present in kefir with many other lactic acid bacteria, acetic acid bacteria, *Bifidobacteria* spp. and yeasts. Regular consumption of traditional kefir has beneficial effects on the immunity and digestive/gastrointestinal systems in addition to its cholesterol-lowering, allergy, wound healing, ACE (angiotensin-converting-enzyme inhibition) inhibition, lactose intolerance preventing, antimutagenic, anticarcinogenic and antimicrobial properties. However, in large scale kefir productions industry prefer to use starter cultures that have very limited content of bacteria. Therefore, formation of useful microflora and bioactive substances of kefir is mainly affected by using kefir grains. The aim of this presentation is to explain technological production techniques of kefir and their effects on health.

Biography

Tugba Kok Tas graduated from Suleyman Demirel University in 2001 and she studied her Master's degree at the same university. Her thesis was on viscosity of ayran with different cultures. She worked on her PhD at the Suleyman Demirel University during 2005-2010 about kefir technology. Her research interests are fermented food products, flow properties of foods, functional foods, improvement in kefir/ kefir grain technology and effect of health on functional foods with animal tests.

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