Improving composition and microbiological characteristics of milk kefir using colostrum

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Abstract	Kefir characteristics are influenced by raw materials. Fresh milk and colostrum have different characteristics. In this research, colostrum was used as additional material in kefir production which could affect the chemical, microbiological, and antimicrobial properties of final the product. This study was aimed to investigate the chemical and microbiology properties of kefir prepared from milk, colostrum and milk-colostrum mixes. Kefir was prepared by adding kefir grains to 100% fresh milk, milk-colostrum mixes (20:80%; 40:60%; 60:40%; 80:20%) and 100% colostrum. Fermentation was allowed under room temperature for 24 hours. Results showed that all treatments produced kefir with relatively similar titrable acidity, free fatty acids, and fat contents. The highest levels of ethanol, total solids and protein content were observed in kefir produced from 100% colostrum. The average total microbes were 6.37 - 7.51 log CFU/ml; 7.04-8.23 log CFU/ml bacteria; 6.92-7.48 log CFU/ml LAB and 5.54-6.55 log CFU/ml yeast. Water activity values ranged from 0.85 to 0.89. The highest microbial and antimicrobial properties were shown by kefir produced from milk-colostrum mix of 20:80%.
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