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RHEOLOGICAL AND TEXTURAL CHARACTERIZATION OF KOMBUCHA FERMENTED MILK PRODUCTS MANUFACTURING BY TRANSGLUTAMINASE ADDITION

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Rheological and textural properties of fermented milk products obtained by using kombucha starter and transglutaminase (TG) addition were analysed during 14 days of storage. Two concentrations of evaporated kombucha starter (1.5 and 3.0%) were used for fermented milk product manufacturing. Transglutaminase enzyme was added in milk in concentration of 0.02%, activated at 40℃ during 2 hours, and inactivated at 80℃ for 1 minute. Four samples were produced with and without TG addition. Rheological properties of fermented milk samples were analysed by using a viscometer HAAKE RheoStress 600HP (Karlsruhe, Germany) fitted with sensor PP60Ti (gap 1mm). Firmness and consistency of fermented milk products were analyzed by Texture Analyser TA.HD.plus (Stable Micro System, Godalming, England). The obtained results showed that evaporated kombucha inoculums (non-conventional starter culture) significantly effect on fermentation time and chemical characteristics of the products. The addition of transglutaminase had great influence on texture and rheology of produced samples. Milk fermentation of samples produced with TG addition was approximately 735 min. Fermentation time of kombucha fermented milk sample with 1.5% inoculum lasted 135 min. shorter compared to sample with 3.0% inoculum. The values of textural characteristics of samples with TG were higher compared to samples without TG, but the difference is not significant between samples with different concentration of evaporated kombucha inoculum. The addition of TG in milk significantly increased textural parameters of product during 14 days of storage. Rheological parameters of products are in corelation with textural properties during storage. Acknowledgement: This investigation is financially supported by Ministry of Education, Science and Technological Development, Republic of Serbia (Grant III–46009).

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