

THE EFFECT OF STARTER CULTURE PRODUCING EXOPOLYSACCHARIDE ON PHYSICOCHEMICAL PROPERTIES OF YOGHURT

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Abstract. The purpose of this research was to investigate the impact of indigenous starter culture capable to synthesize exopolysaccharides (EPSs) on physicochemical properties of yoghurt. Two starter cultures, EPS-producing and non-EPS-producing, were developed from the autochthonous lactic acid bacteria strains by pairwise combining *Lactobacillus delbrueckii* ssp. *bulgaricus* and *Streptococcus thermophilus* strains. In the present study the ropy strain of *Streptococcus thermophilus* CNMN LB-50 was incorporated in EPS-producing starter culture. The microstructure, viscosity, EPS amount, structural properties and syneresis of yoghurt samples were assessed. It has been established that the EPS-producing starter culture provided a reduction of structural degradation and increased degree of structural recovery after deformation. Besides, it was observed that the use of EPS synthesized starter culture in yoghurt production restrains the syneresis of the gel.

Keywords: yoghurt, starter culture, *Streptococcus thermophilus*, physicochemical properties.

Received: 06 July 2017/ Revised final: 21 August 2017/ Accepted: 05 September 2017