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THE EFFECT OF STARTER CULTURE AND FUNCTIONAL INGREDIENTS ON TEXTURE, RHEOLOGY AND COLOR OF FERMENTED MILK PRODUCTS

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The effect of starter cultures and functional ingredients on textural and rheological characteristics and color of different types of fermented milk products were investigated in this study. Flow curves of the samples was measured by using Rheo Stress 600HP Haake (Karlsruhe, Germany) viscometer at 4 and 8℃ after the production and after 14 days of storage. Textural properties: firmness and consistency of fermented milk products were analyzed by Texture Analyser TA.HD.plus (Stable Micro System, Godalming, England). Color of samples was measured using the photoelectric tristimulus colorimeter (Chromometer CR-400, Konica, Minolta) in the CIE Lab system. The results of measurements of viscosity at 4℃ showed that the maximum value of shear stress in samples of stirred yoghurt varied from 7.5 Pa to 13.5 Pa after production, while the set yoghurt samples have significantly higher values (110 Pa – 220 Pa). The values of the shear stress at 8℃ for all fermented milk products showed the similar trend. Sour milk sample had the highest values of textural characteristics as follows: firmness (404.6g), consistency (9802.83gs), cohesiveness (-191.86 g) and index of viscosity (-459.00gs). Stirred yoghurt samples had significantly lower values of textural parameters compared to samples of set yogurts and flavoured fermented milk products. There are not significant changes in color, textural and rheological characteristics of the product during storage. The addition of functional ingredients significantly improved the textural and rheological characteristics of low fat products. Acknowledgement: This investigation is financially supported by Ministry of Education, Science and Technological Development, Republic of Serbia (Grant III–46009).

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