

F.16. THE IMPACT OF SOME NUTRITIONAL FACTS AND PHYSICO-CHEMICAL INDICES ON THE GOAT'S MILK YOGURT TEXTURE

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Abstract. Goat milk and derived dairy products occupy a significant place in the human rational diet due to their high chemical composition and the assimilation easiest way of the most accessible animal proteins and fat. The problem imposed by this research is to identify the impact of some physico-chemical indices on the formation of the texture of goat milk yogurt resulting from the fact that it forms a weaker lactic gel compared to cow milk yogurt. In this paper, goat milk yogurt and cow milk yogurt are analyzed, both samples being made by the classic thermostat method. Thermostat method is an effective method for the appreciation of the formed curd firmness, an important aspect of the acidic dairy products quality. The quality of the formed gel was analyzed in terms of texture indices which for goat milk yogurt showed lower values (gumminess (H·A2/A1) - 15.0 ± 0.02 , firmness (g) - 19 ± 0.03 , adhesiveness (N·s) - 20.1 ± 0.01 , stickiness - 11.1 ± 0.03) compared to cow milk yogurt, due to the different composition of casein fractions, in milk prevailing the amount of α -casein, which contributes to the formation of a firm gel, and goat milk have a higher β -casein content, more calcium and phosphorus. This is why the coagulum is softer and digested more easily, because in the acidic environment of the gastrointestinal tract it forms smaller and softer clusters than cow milk, also the kind and quality of starter culture, dry matter content, product acidity. The dry matter content depends on the content of proteins,

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minerals, fats. Dry matter for cow milk yogurt was 15,5% in comparison with goat milk yogurt - 14%, results that coincide with higher content in proteins, minerals, fats for cow milk yogurt. Titratable acidity of cow milk yogurt sample is 100 °T and for sample of goat milk yogurt is lower 80 °T. There are studies that indicate that fat content influences the acidity value of the yogurt, namely that increasing milk fat content, increased the initial pH of the samples and the rate of decreasing pH during incubation of high fat samples was lower than others. The fat content of cow milk yogurt is 4,1% and for goat milk yogurt sample - 3,7%. The results obtained for the analyzed indices support the conclusion that goat milk yogurt forms a weaker but finer gel compared to the gel formed by cow milk yogurt being influenced by the content of some components such as proteins and fat (total dry matter) as well as the evolution of acidity.

Keywords: goat milk, cow milk, yogurt, texture.