

Influence of Milk Fat and Added Sugar Content on Texture Profile of Set Yoghurts

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Developing food products without fat and sugar is an emerging trend as one of the solutions for the increased risk of non-communicable diseases. However, the changes in fat and sugar content may lead to altering the product attributes and directly effect to the consumer preference. Therefore, studying those effects is essential to establish consumer preference for the particular product category. The study is focused on the effect of alteration of milk fat (3.3%, 1.5%, and 0%) and added sugar (7%, 3.5%, and 0%) levels on texture profile of set yoghurts. Tests were performed using a texture analyzer (CT3; Brookfield) with cylindrical probe (38.1 mm diameter) at 20 °C. Each response was tested in triplicates. Results revealed that hardness, adhesiveness, fracturability, gumminess, and chewiness were gradually increased with the fat content. Lowest hardness (107.4 ± 5.97 g), adhesiveness (2.21 ± 0.16 mJ), fracturability (13.7 ± 1.30 g), gumminess (50.93 ± 2.57 g), and chewiness (9.59 ± 0.46 mJ) were observed in set yoghurt made with 0% milk fat and 7% added sugar combination. Cohesiveness and springiness values were not significantly affected by the level of milk fat or added sugar. Whey separation is a predominant defect which is inversely proportional to the milk fat content of yoghurt. Syneresis index of fat and added sugar free yoghurt was high as 43.30 ± 0.46 %. Reduction of fat and added sugar leads to decrease the total solid content of yoghurt may contribute to the syneresis. Texture profile of set yoghurts was largely influenced by the milk fat levels.

Keywords: Fat, Sugar, Texture, Yoghurt, Hardness