

EFFECT OF HIGH OLEIC SUNFLOWER OIL INCLUDING OLEOGEL ON THE TEXTURAL AND SENSORY PROPERTIES OF CAKE

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ABSTRACT

The existence of the relation between health and diet has motivated people to consume food products with lower adverse health effects. As known consumption of excessive saturated fatty acid increases the risk of cardiovascular disease. Therefore, decreasing saturated fatty acid content of the food materials without damaging the quality of the food products is important issue in the food industry. When considering the importance of fats in the quality of the products, liquid oils are structured to transform them to solid fats. Oleogelation is one of the way which has been recently used for this aim. In the present study, probable usage of oleogels prepared from high oleic sunflower oil (HOSO) in the formulation of cake was investigated. For this aim three different oleogel formulations were studied: (i). 50 % cottonseed oil (CSO) + 25 % shortening + 25 % HOSO, (ii). 50 % HOSO + 50 % CSO and (iii) it is the same with second formulation however, this oil blend was oleogelled with dehydrated wax. Textural and sensorial properties of oleogel including cakes and control sample were investigated. Hardness, chewiness and gumminess values of the cakes prepared by oleogels were found to be higher than those of control sample. According to sensory analyses, the sample prepared from third formulation had the highest overall acceptability value. Wax type used in the formulation as well as oil types significantly affected textural and sensory properties of cakes. The findings of the present study highlighted that oleogels rich in unsaturated fatty acid content could be used in the cake formulation instead of shortening rich in saturated fatty acids.

Key Words : Oleogel, cake, high oleic sunflower oil, texture, sensory