



## INVESTIGATING THE RHEOLOGICAL AND PHYSICAL BEHAVIORS OF YOGURT DURING STORAGE

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### ABSTRACT

As a popular fermented dairy product, yogurt enjoys a special status among the consumers and, therefore, its quality is the great interest. Investigating the viscosity, physical properties and color of yogurt in the storage time are the necessary step for improving its quality. The aim of this study is to explore the changes of L\* and viscosity of yogurt with the changes of variables like temperature, loading speed, type of yogurt and storage period. These tests have been performed by using of axial test to measured viscosity, as a new method, on two types of yogurts, low-fat (1% fat) and high-fat (4.2% fat). The tests were performed at loading speeds of 40, 60 and 80 mm/min and temperatures of 4 and 25 °C. The backward extrusion axial test device and the cyclic method have been employed to determine the viscosity of yogurts. The variance analysis results related to the data of L\* and yogurt viscosity became significant at a probability level of 1% for the main effects and some of interaction. By increasing the loading speed, a decreasing trend in viscosity was observed. Both yogurt types had a higher viscosity at the temperature of 4 °C than at 25 °C. The storage period didn't have a steady and consistent influence on viscosity. The viscosity of high-fat yogurt was greater than the viscosity of low-fat yogurt at both temperatures of 4 and 25 °C

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