

## EFFECT OF SOME TYPES OF STABILIZERS ON THE QUALITY OF YOGURT DURING STORAGE

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### Abstract

As a fermented milk product, yoghurt is heavily traded worldwide. Transfers and trading leads to a decrease in the quality of finished products, which are the destruction of texture, reduced viscosity, and increased amount of separate whey. Therefore, the objectives of this study were to improve the quality of the texture of these products using additives improving thickness, consistency and texture, and to study its quality properties.

The yoghurt was produced by cow milk (from cows' milk farm in the Directorate of Science in Salah al-Din province in Iraq) and starter cultures (*Lactobacillus bulgaricus* and *Streptococcus thermophilus*). In this yoghurt were added 0.5% of following stabilizers: gelatin, starch and pectin (obtained from the Department of Food Sciences at the college of Agriculture and Forestry). Before and after adding the stabilizers were examined: pH (with pH meter), whey separation (by discharge test) and resistance of the curd (by Vi-Kit device), as well as microbial analysis for: total number of bacteria, number of *Lactobacillus bulgaricus* and *Streptococcus thermophilus* and the number of coliform bacteria (classical methods). Also, sensory assessment was performed for all variants (regarding: taste and flavor, texture, exterior, and acidity).

Results of this study showed that the addition of stabilizers increased pH value in the final products when compared to the control. The amount of whey separated decreased from 35.17 mL/100 g to 28.42, 24.8, and 25.07 mL/100 g for samples with added starch, gelatin and pectin, respectively. Furthermore, resistance of the curd decreased, and the penetration rate of the cone increased to 18 mm for the yogurt sample with the addition of 5% gelatin, which reflects the strength of curd cohesion when adding stabilizers to yogurt samples. Addition of stabilizers to yogurt gave satisfactory and acceptable results regarding finished yoghurt sensory analysis.

The yogurt resulting from the addition of stabilizers led to increase of the pH value, and decrease of separated whey and curd resistance. Also, addition of stabilizers improved final product sensory properties. The addition of gelatin to yogurt led to a decrease in the number of microbes.

**Key words:** Stabilizers, Yogurt, Starch, Gelatin, Pectin.