

MAYONNAISES FROM FRESH OR FROZEN EGG YOLK WITH RAPESEED AND SESAME OILS -THE INFLUENCE OF EGG YOLK FREEZING AND STORAGE TIME AND OILS RATIO

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Abstract. The rheological behavior of some mayonnaise varieties prepared from liquid egg yolks, fresh or frozen, whose oily phase is made up of mixtures of sesame oil and rapeseed oil was studied in the current paper. The study examined the influence of the freezing time of the egg yolk, of the ratio between the two types of oil, as well as of the storage time, on the rheological parameters (apparent viscosity, consistency coefficient, flow behavior index). It has been shown that all types of mayonnaise present non-Newtonian behavior (pseudoplastic), because the values of the flow behavior index established from the specific mathematical models (Ostwald de Waele and Herschel-Bulkley) are sub-unit, and the apparent viscosity decreases with the increase of the shear rate. Mayonnaises prepared from frozen egg yolks and those with an oily phase in which sesame oil is predominant, have a higher consistency. The oxidation stability was evaluated by determining the acid values, which increase slightly with the freezing time of the egg yolk and with the amount of sesame oil in the oily phase. From the color tests carried out in the CIELAB color space, the characteristic parameters L^* , a^* and b^* were determined and the lightness of the mayonnaise was assessed.

Keywords: egg yolk, mayonnaise, rheological behavior, viscosity, CIELAB.

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