

The effect of monoglyceride addition on the rheological properties of pistachio spread

Abstract

Pistachio nut (*Pistacia vera* L.) is one of the most delicious and nutritious nuts in the world. In this study, monoglycerides (0.0–1.5 %) as lipophilic emulsifiers were used to prevent oil separation in pistachio spread A (containing 50.0 % pistachio paste, 30.0 % icing sugar and 20.0 % red palm oil) and B (containing 58.3 % pistachio paste, 25.0 % icing sugar and 16.7 % red palm oil). Changes in rheological behavior of pistachio spreads were investigated. The highest work of shear (which indicates spreadability) was observed in Formulations A and B containing 1.5 % monoglycerides. Addition of emulsifier significantly ($P < 0.05$) influenced the consistency index (K), thixotropic area (A), yield stress (τ_0) and coefficient correlation (R) of pistachio spreads. All the pistachio spreads that contained emulsifier exhibited a higher storage modulus (G') than the loss modulus (G'').

Keyword: Pistachio nut; Paste; Spread; Oil separation; Emulsifier; Rheology