

Applications and effects of monoglycerides on frozen dessert stability

ABSTRACT

The main variations in monoglycerides are its fatty acid composition and degree of unsaturation. This study aimed to evaluate monoglycerides of different degree of unsaturation on stability of ice creams, which is also known as frozen desserts because of vegetable fat usage. This was in view of the fact that saturated monoglycerides and its blend with polysorbate 80 had been used historically in ice creams formulations instead of unsaturated monoglycerides. Stability in terms of aeration performances were measured through quantification of fat globules size distribution, meltdown resistance and heat shock stability. The meltdown rate between the saturated and unsaturated monoglycerides was 0.17–0.26% per min and 0.12–0.19% per min respectively. Frozen desserts with meltdown rate below 0.2% per min was defined to have good meltdown resistance performance. Unsaturated monoglycerides performed better than saturated monoglycerides alone and saturated monoglycerides blended with polysorbate 80 in frozen dessert stability.

Keyword: Monoglycerides; Ice cream; Frozen desserts