

The effects of fat substitution using palm stearin on the physicochemical properties of shortened cake

Chek Zaini Hassan and M F Ainil
Universiti Sains Islam Malaysia, Malaysia

Fats used in baking contain trans fatty acid that has been proven to contribute towards various health problems. Palm stearin is used to substitute shortening in different ratios to observe the effects on the physicochemical properties of cake. Formulations A, B, C, D, and E each has palm stearin substitution of 0%, 25%, 50%, 75%, and 100% respectively. All formulations were analyzed for its specific gravity, fat content, moisture content, color analysis, texture analysis and sensory analysis. At 25%

level of substitution (formula B), moisture content (0.44 ± 0.00 %), fat content (27.75 ± 0.42 %), hardness (1469.4 ± 432.1 N), and overall liking in sensory analysis (5.5 ± 1.10) are found to be similar with formula A; formula B for color analysis 80.84 ± 0.20 (L*), 2.79 ± 0.40 (a*), and 30.30 ± 0.64 (b*) and specific gravity (0.84 ± 0.12) are however significantly different with formula A. It is found that a different substitution ratio does affect the physicochemical properties of the cakes. Substitution up to 25 % shows that it is best in producing cakes most similar to formula A. Further studies need to be carried out in order to find a method that may incorporate higher palm stearin substitution as well as palm stearin functionality in a cake system.

chek_zaini@usim.edu.my