

Fatty Acid Profiles and Melting Properties of Cake and Biscuit Shortenings Marketed in Turkey

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In the present study, 20 biscuits and cake samples were randomly purchased from local supermarkets. Total fat content of the samples were obtained using soxhlet extraction and analyzed for their fatty acid composition, solid fat content (SFC) and slip melting points (SMP).

Fat content of biscuits and cakes ranged between 10.76-20.38% and 23.5-32.71%, respectively. Results have shown that palmitic acid is the most abundant fatty acid in biscuit and cake fats ranging between 36.76-43.66% and 33.69-43.18%. Palmitic acid is followed by oleic acid for all samples, changing between 33.26-37.78% for biscuit fats and 36.30-41.47% for cake fats. Linoleic acid in all samples changed between 10.96-19.36%. No trans isomers of oleic acid were detected but very low amounts of trans linoleic acid were recorded in the samples, between 0.15-0.36%. SMP of biscuit and cake fats were 11-46 °C and 8-41 °C while SFC of them were recorded between 37.6-50.7% and 30.7-53.1% at 0 °C, 2.0-3.8% and 0.0-5.0% at 40.6 °C, respectively.

Key words: Biscuit, cake, fatty acids, melting properties