

Effect of Food Processing on trans Fatty Acids Formation

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Formation of trans fatty acid isomers is usually related to application of elevated temperature during oil processing. However, their formation during typical food processing is usually speculated as possible, claiming negative health effect. In this project we assessed how typical food processing operations affected isomerization of fatty acids. Food was prepared using standard conditions during baking, stir-frying and deep fat frying. As possibility another set of experiments was performed where potential extreme parameters were applied. Typical processing parameters have minimal effect on trans isomers formation, however when extreme parameters were used the amount of trans isomers was observed increased. These experiments showed clearly that time and temperature are the main factors affecting the rate of most fatty acids isomerization.