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Investigation of Oil Physical Properties Affecting Oil Absorption during Frying Process

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Deep-fat frying is a very old process that has grown exponentially over the last years. During frying, oil is considered both as the heating medium and as an ingredient of final products. Nutrition is a major health issue, especially in developed countries where increasing obesity is a problem, particularly among children. Many food research projects involving snack food industries therefore attempt to understand oil uptake during the frying process in order to control and reduce the oil content of fried products. Mechanisms of oil uptake during frying and post-frying periods were discussed. The frying conditions and oil physical properties such as oil ingredient, viscosity, superficial tension and aging affecting oil absorption during frying were investigated. The results showed that, among the physical properties, the oil viscosity plays an important role in oil uptake. The oil viscosity changes during frying process as a function of oil temperature.