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Assessment of Frying Material by Deep-Fat Frying Method

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Abstract : Deep-fat frying is popular standard method that has been studied basically to clarify the complicated mechanisms of fat decomposition at high temperatures and to assess their effects on human health. The aim of this paper is to point out the application of method engineering that has been recently improved our understanding of the fundamental principles and mechanisms concerned at different scales and different times throughout the process: pretreatment, frying, and cooling. It covers the several aspects of deep-fat drying. New results regarding the understanding of the frying method that are obtained as a results of major breakthroughs in on-line instrumentation (heat, steam flux, and native pressure sensors), within the methodology of microstructural and imaging analysis (NMR, MRI, SEM) and in software system tools for the simulation of coupled transfer and transport phenomena. Such advances have opened the approach for the creation of significant information of the behavior of varied materials and to the event of latest tools to manage frying operations via final product quality in real conditions. Lastly, this paper promotes an integrated approach to the frying method as well as numerous competencies like those of chemists, engineers, toxicologists, nutritionists, and materials scientists also as of the occupation and industrial sectors.

Keywords : frying, cooling, imaging analysis (NMR, MRI, SEM), deep-fat frying
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