

Systematic Evaluation of Heated Fats Based on Quantitative Analytical Methods

Sir,

In a recent paper (1), Dobarganes and Perez Camino describe a scheme for the analysis of heated or used frying fats and use this scheme for the evaluation of thermo-oxidized oils.

Three years earlier, an identical scheme was described by Perrin et al. (2) and applied to the analysis of oils heated and aerated until formation of foam. The procedure used by these authors included separation of nonpolar and polar triglycerides according to Guhr and Weibel/IUPAC (3); transesterification of methanol of both fractions to form methyl esters, and fractionation of methyl esters of the polar glycerides into nonpolar and polar ones, according to an extension of Guhr and Weibel's method (4) similar to that proposed by Dobarganes et al. (5). Finally, the initial and nonpolar methyl esters issuing from nonpolar and polar triglycerides are analyzed by GC, whereas initial and nonpolar triglycerides are analyzed by reverse phase HPLC. The transformation in molar percentages of the compositions by weight of the results obtained for the different fractions leads to an evaluation for each individual triglyceride or fatty acid of the proportion, related to the initial oil, which has been transformed by the thermo-oxidative treatment.

The only improvement of Dobarganes-Perez Camino's procedure is the determination of nonpolar internal dimers, made possible, in fact, by another observation of Perrin et al. (6) using HP GPC, which was not available at the time the scheme was elaborated.

I believe this correction should be made to inform the readers of your Journal.

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