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VOLATILE ANALYSIS BY HS-SPME/GC

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Headspace solid phase microextraction/gas chromatograph (HS-SPME/GC) was evaluated as a tool in determining the rate of oxidation in oxidized vegetable oil samples by measuring the production of hexanal as a secondary breakdown product of linoleic acid. Using the optimized extraction conditions, an R value close to unity (R=0.999) was found, and the repeatability (n=11) was 6.31%. The study showed that HS-SPME/GC procedure was a simple and reproducible method for the analysis of hexanal in vegetable oil, and is useful a quality control and research tool for the evaluation of flavor quality and shelf life of vegetable oil.

Key words: Volatile analysis, headspace solid phase microextraction gas chromatograph, vegetable oil, flavor quality