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Developing supercritical fluid extraction assisted by cold pressed: A novel extraction technique with promising performance as applied to pequi (*Caryocar brasiliense*)

M. Angela A. Meireles*, Júlio C. Johner Flores, Tahmasb Hatami,
LASEFI/DEA/FEA (School of Food Engineering)/UNICAMP (University of Campinas), Campinas, SP, Brazil
*maam1953@unicamp.br

ABSTRACT

A novel technique for enhancing the performance of supercritical fluid extraction (SFE) was developed in this study for the first time. This technique, which integrates cold pressed and SFE processes, is called supercritical fluid extraction assisted by pressing (SFEAP). SFEAP was compared with SFE in term of the extraction performance of pequi (or souari nut), which is a native Brazilian fruit with high-level lipids content. It was found that SFEAP obtained a mass of extract eight times higher than that of SFE for the first minute of extraction, which corresponds to a yield of 21% with respect to the mass of raw-material. SFEAP can be efficiently used for other raw materials with high lipids content to decrease both extraction times and solvent consumption.