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THERMAL BEHAVIOUR AND PHYSICOCHEMICAL PROPERTIES OF SAFOU (DACRYODES EDULIS) PULP OIL FROM PRESS AND SOLVENT EXTRACTION

Juste YAMONEKA* ; Paul MALUMBA; Sabine DANTHINE; Christophe BLECKER; François BERA; Marie-Laure FAUCONNIER; Georges LOGNEY

Université de Goma et Université de Liège (Gembloux Agro bio tech), Belgique
*justewasso@gmail.com

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Abstract: *Dacryodes edulis* (“Safou” or “African pear”) is mainly operated for its edible fruits and also plant leaves and bark used in traditional medicine. Its domestication has just started due to lack of scientific data on the quality and quantity of the fruit oil. In this study DPO was press, solvent extracted and characterized. Besides a chemical characterization (fatty acid (FA) and triacylglycerol (TG) profiles), the melting and crystallization behaviour of the extracted fat was studied by complementary techniques: pNMR, DSC and X-ray diffraction in order to get basic information regarding its physical properties and its polymorphism. The result of this investigation showed that the press extraction method has a low yield compared to the solvent methods. Pulp pre-dried at 45°C showed a higher yield than that pre-dried at 35°C and oil with the similar profile than FO, indicated that this technic can be used in local region to decrease post-harvest losses of this fruit. DPO was found to be with a balanced fatty acid composition with a SFA level almost equal to that of the UFA and a low SFC at room temperature. Their melting DSC profile have two major endothermics regions and ?’ form stable polymorphism during heating. Practical applications: Fruits of *D. edulis* softens after three to five days after harvest. This work proposes a high yield method to extract oil from *D. edulis* fruits that could reduce post-harvest losses of this fruit. From this present study, physicochemical and thermal properties of DPO are revealed and show that this oils can be fractionated in multi-stage giving access to several products for specific applications in food industries. This may contribute to encourage the domestication of that tree and the valorisation of its oil at industrial level with a positive impact in the reduction post harvest losses during production and increase the added value of the product.