Changes in microstructures of rambutan seed and the quality of its fat during drying

ABSTRACT

The application of pre-treatment on oilseeds prior to extraction process may exert undesirable impact towards the quality of oils as well as microstructures of seed. The objectives of this study were to evaluate the efects of three drying methods on the microstructures of rambutan seeds and its efects on physicochemical properties of rambutan seed fat (RSF). The fats that being pre-treated with three diferent drying methods showed shrinkage or alteration of porous structure in terms of size, shape, and diameter. The diferences between the RSF pre-treated with oven-, freeze-, and cabinet drying RSF were in fatty acids (oleic and arachidic acids), and free fatty acid (1.56–1.80 mg KOH/g fat). From the results obtained, the useful information regarding to the efects of pre-treatment on RSF, which is a potent ingredient to be used as a cocoa butter substitute in the formulation of chocolate in the confectionery industries. Moreover, the outcomes of this work able to provide information for better grasp about the correlation of drying methods and quality of RSFs, as well as its applications in other food industries.