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Title: Effect of wall material on the property of Gac oil spray-dried power and shelf-life of product storage

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Gac fruit (Momordica cochinchinensis, Spreng) aril contains extraordinarily high levels of β-carotene, lycopene and unsaturated fatty acids, especially oleic and linoleic acids. These bioactive compounds have been proven to be beneficial to human health and are linked with a reduced risk of cardiovascular disease and cancers. There were previous researches carried out to encapsulate Gac oil using maltodextrin, whey protein and gum arabic. However, no reports have been found to study cyclodextrin and sodium caseinate as a carrier or encapsulating agent for producing Gac oil powder. The aim of this study was therefore to investigate the impacts of wall concentration on Gac oil microencapsulation using spray drying method. The data showed that 25% of maltodextrin (or cyclodextrin); ratio of maltodextrin (or cyclodextrin) and sodium caseinate of 0,6:1 resulted in high microencapsulation productivity and maintaining of total carotenoid in the product during drying process and storage. Gac powder is saffron color of turmeric, specific odor and completely dissolved in water. It was concluded that sodium casenate – cyclodextrin matrix as the wall material was effectively used for spray-drying encapsulation of Gac oil.