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Original Article

Oxidative stability of sacha inchi oil microparticles covered with ovalbumin

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Abstract

The coating of microparticles obtained by ionic gelation with protein is a strategy adopted to increase the oxidative stability of different oils. In this work, the effect of different concentrations of alginate and calcium on the production of microparticles and the oxidative stability of microencapsulated sacha inchi oil coated with ovalbumin was evaluated. The sacha inchi oil demonstrated to be a source of polyunsaturated fatty acids, especially linolenic and linoleic acids. The obtained coated and uncoated microparticle showed spherical morphology with continuous walls, encapsulation efficiency about 72%, and the average size of 239 µm and 309 µm, respectively. The higher size of coated microparticle is due to high amounts of ovalbumin adsorbed, which ranged from 51.8 to 70.9%. The Oxidative stability evaluation showed that the presence of ovalbumin adsorption contributed to the stability of sacha inchi oil, when compared to the oil present in particles without protein coating.

Keywords

microencapsulation, accelerated shelf life, egg protein, unsaturated fatty acids, oxidative stability

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