



Chemical properties of blended oil containing coconut oil and sacha inchi oil or peanut oil by cold extraction

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Vegetable oil such as sacha inchi oil and peanut oil contains unsaturated fatty acid. It is susceptible to oxidation. Medium chain saturated fatty acid is often used to protect and inhibit oxidation of vegetable oil. Coconut oil contains high medium chain saturated fatty acid such as lauric acid (C12). The objectives of this work were to (1) produce blended oil containing coconut oil and sacha inchi oil or peanut oil by cold extraction and (2) study chemical properties of blended oil. Blended oil between coconut oil and sacha inchi oil or peanut oil was produced by incubating the mixture of coconut milk and emulsion of sacha inchi seed or peanut seed at room temperature for 24 hr. Blended oil yield was obtained to be ~15%. The stability of blended oil was evaluated with free fatty acid, peroxide value and rancimat induction time. Induction time, peroxide value and free fatty acid of blended oil were lower than pure sacha inchi oil and peanut oil. The antioxidant activity of blended oil was assayed with DPPH. It was found that blended oil containing coconut oil and sacha inchi oil shows higher antioxidant activity than blended oil containing coconut oil and peanut oil and pure vegetable oil including sacha inchi oil and peanut oil. Fatty acid composition is most important factor affecting to nutritional quality and stability. Blended oil showed saturated/unsaturated ratio near 1 was the optimally stable composition and proper fatty acid composition for nutrition.

Keywords: blended oil, sacha inchi oil; coconut oil; peanut oil; cold extraction