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Oxidative Stability of Avocado Pulp Oil Obtained by Different Processes

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Avocado oil is rich in unsaturated fatty acids, mostly oleic, linoleic and palmitoleic, which are prone to oxidation. Oxidation of avocado oil would lead to the formation of volatile compounds responsible for off-flavors and to nutritional losses. Thus the objective of the present work is to evaluate the oxidative stability of avocado (*Persea americana* Mill.) pulp oils, obtained by different processes: cold-pressing from avocado pulp (Hass variety) pre-treated without and with 0.03% of an enzyme pool and dried under convective air at 45°C to constant weight; cold-pressing from pulp dried in a microwave oven for 45 minutes at 80% of potency. The avocados cultivated under organic system were acquired from a local producer from Petropolis, RJ, Brazil. The raw material was submitted to a steam bath for 15 minutes in order to inactivate endogenous enzymes, and subsequently the peels and pits were removed. The oxidative stability was determined by the Rancimat assay at 110°C with 3g of oil sample and forced air at 10L/ h. The oil obtained from the pulp dried with microwaves presented the highest oxidative stability, with an induction time of 116.0 h, followed by the cold-pressed avocado oil (13.3 h) and the enzymatically extracted avocado oil (10.6 h). Consistently, the oxidative stability was negatively associated with the acidity index of the oils, and the samples with the lowest induction times presented the highest acid values, expressed as % oleic acid: 0.66 (with enzyme), 0.37 (without enzyme), 0.26 (microwave dried). Although the efficiency of extraction was the highest in the enzymatically-assisted extraction, this process promoted a slight decrease in the oxidative stability of the avocado oil compared to the pulp dried in the absence of enzymes. Surprisingly, the oil obtained by cold-pressing after microwave drying presented the highest oxidative stability, representing new technological opportunities for oleaginous pre-treatment.

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