

Lipid characteristics and tocopherol content of the oils of native avocado cultivars grown in Indonesia

ABSTRACT

The oils obtained from three Indonesian avocado (*Persea americana*) cultivars namely Merah bundar, Ijo bundar and Ijo panjang, were compared to the oils obtained from imported Fuerte and Shepard avocado varieties in terms of lipid characteristics and tocopherol content. The oils of all avocado varieties existed in a semisolid form, except that of the Fuerte variety. Free fatty acids and peroxide levels in the oils obtained from locally grown avocado were lower than the levels in the oils obtained from imported avocados, implying that local avocado oils have a better oxidative stability. Interestingly, the tocopherol (alpha, beta, gamma and delta) content of local avocado oils was also much higher than that of imported avocado oils. Meanwhile, differences in the FTIR spectrum of avocado oils were found at frequencies of 1034 and 968 cm^{-1} . There were also some differences in the fatty acid and triacylglycerol composition of avocado oils. Due to these differences, the physicochemical characteristics and the solidification and thermal profiles of the oils obtained from local avocado cultivars were completely different from those of the imported avocado varieties (Fuerte and Shepard).

Keyword: Indonesian avocado; Physicochemical; Tocopherol; FTIR; Thermal profile