Antioxidative properties of curcuma longa leaf extract in accelerated oxidation and deep frying studies.

ABSTRACT

The antioxidative properties of Curcuma longa (turmeric) leaf extract were evaluated in refined, bleached and deodorized (RBD) palm olein using accelerated oxidation and deep frying studies at 180 °C for up to 40 h. The extract was capable of retarding oil oxidation and deterioration significantly ($P < 0.05$) at 0.2% concentration, better than 0.02% BHT for the Oxidative Stability Index (OSI) in an accelerated oxidation study and also the peroxide value in deep frying studies. In sensory evaluation, the French fries were acceptable and were not significantly different ($P < 0.05$) from one another for color, oiliness and crispiness throughout the 40-h frying study. Curcuma longa leaf extract, which had a polyphenol content of 116.3 ± 0.2 mg/g, possessed heat-stable antioxidant properties and may be a good natural alternative to existing synthetic antioxidants in the food industry.

Keyword: Frying; Curcuma longa leaves; Palm olein; Sensory evaluation; Antioxidant; Accelerated oxidation study.