

# Oxidative stability of oils containing olive leaf extracts obtained by pressure, supercritical and solvent-extraction

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The effect of the addition of olive leaf (*Olea europaea*, cv. Arbequina) extracts, i.e. hydroalcoholic (ethanol-water 1:1; OHE), juice (OJ) and supercritical fluid-CO<sub>2</sub> (OSFE) on the oxidative stability of vegetable oils with different unsaturation, such as soybean oil (SBO), canola oil (CO) and high oleic sunflower oil (HOSO), were studied at two concentrations (250 and 630mg/kg oil, expressed as caffeic acid equivalent (CAE)). The extracts were characterized by the total phenolic content (Folin-Ciocalteu method), phenol chromatographic profiles (LC-MS) and antioxidant activity (DPPH). OHE showed the highest phenol content (7.7mg CAE/mL) while OJ and OSFE showed values of 5.4 and 2.2mg CAE/mL, respectively. Oleuropein and its derivatives were the major phenolic compounds identified in OHE. The addition of 630mg CAE/kg oil of OHE and OSFE to HOSO, SBO and CO showed an antioxidant effect, increasing significantly the induction time (IT) ( $p < 0.05$ ). That effect was highest when the system w