

CHEMICAL COMPOSITION AND ANTIOXIDANT ACTIVITY OF LIPIDS FROM *FICUS CARICA* L. FRUITS

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Abstract. Samples of oils from seven types of *Ficus carica* L. fruits from Algeria were investigated through determinations of their chemical characteristics, quantifying sterols and tocopherols, and analysis of the fatty acids profiles using gas chromatography, and evaluation of antioxidant activity by 1,1-diphenyl-2-picrylhydrazyl (DPPH) method and total antioxidant activity (TAA) using phosphomolybdenum methods. The results show that acid values ranged from 3.14 to 6.95 mg KOH/g indicating on the high amount of free fatty acids in the figs oils. Neutral lipids occupy a very important proportion of the crude figs oils (NL: 60.30–98.40%) compared to glycolipids (GL: 0.58–28.00%) and phospholipids (PL: 0.40–11.70%). Linoleic (11.70–34.74%) and linolenic (1.15–35.27%) were the major unsaturated fatty acids found in lipid fractions, while the main fraction of saturated fatty acid was palmitic. The tocopherols and sterols contents in fig oils ranged from 14.27 to 108.55 mg α -TE/g lipids and from 0.36 to 2.80 mg CE/g lipids respectively. The best inhibition concentration (IC_{50}) of DPPH antioxidant activity was marked by GL (0.23–1.06 g/L) and PL (0.67–1.23 g/L). The strongest TAA was also marked by GL (IC_{50} : 2.84 to 10.08 g/L) and PL (IC_{50} : 3.73–11.30 g/L). This finding demonstrated for the first time that the studied figs oils possessed good antioxidant activity which may be associated with their alleged health benefits.

Keywords: oil extract, fatty acid, tocopherol, sterol, antioxidant activity.

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