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Composition and functionality of selected cold-pressed oils

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Cold-Pressed Oils (CPO) found in the market was studied for their lipid classes, fatty acid profile, tocopherols and phenolics contents. Radical scavenging potential against DPPH and galvinoxyl radicals were determined. Antimicrobial properties of CPO against foodborne bacteria, food spoilage fungi and dermatophyte fungi were also evaluated. The level of neutral lipids in CPO was the highest, followed by glycolipids and phospholipids. The main fatty acids in the most of CPO were linoleic, oleic, stearic and palmitic acids. Tocopherols and phenolic compounds were determined at high levels. CPO exhibited strong antiradical action and antioxidant traits as evaluated using Rancimat assay. Some CPO inhibited the growth of all tested microorganisms including food spoilage fungi (*A. flavus* and *C. albi*) and dermatophyte fungi (*T. mentagrophytes* and *T. rubrum*). CPO exhibited also broad-spectra activity against food-borne pathogen bacteria (*S. aureus*, *E. coli*, *S. enteritidis* and *L. Monocytogenes*) with MIC ranging between 160 to 320 µg/mL. The results suggest that Saudi CPO could be used economically as a valuable natural product with novel functional properties in food, cosmetics and pharmaceutical industries.

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