

Antioxidant Profile of Home Prepared *Taraxacum Officinale* Weber Ex Wigg Beverage

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Background: Aromatic plants are quite popular for daily use worldwide. However, little is known about the appropriate preparation of beverages in “house conditions” in order to preserve their beneficial characteristics after processing. *Taraxacum officinale* Weber ex Wigg contains a variety of compounds, with well-documented effects against oxidative stress. This study aims to investigate the optimum preparation conditions of a Taraxacum beverage in the household setting, with respect to its antioxidant characteristics.

Methods: Dried, commercial *T. officinale* was used to prepare beverages boiling for 1, 3 or 5 min. The beverages were extracted using organic solvents of increasing polarity, and the solid residues of each extraction were examined by *in vitro* analysis on: the evaluation of total phenolic content (Folin Ciocalteu), the evaluation of antioxidant activity (DPPH and ABTS radicals scavenging), the evaluation of the ability of the tested extracts to compete with DMSO for OH radicals, the ability to inhibit lipid peroxidation of linoleic acid and soybean lipoxygenase inhibition assay.

Results: All preparations had an overall good antioxidant profile. Regarding the chosen solvents, mid polarity solvents were more likely to give better results in all tests conducted, which can be indicative of the compounds extracted in each fraction. Samples prepared under 3 min boiling presented significant interaction with DPPH and strong lipoxygenase and lipid peroxidation inhibition.

Conclusion: As previously observed in the literature, food processing can greatly affect its biochemical characteristics. In the case of *Taraxacum*, boiling for 3 min resulted in the best overall profile of the beverage with respect to its antioxidant properties. However, due to a variety of components present in each plant, further investigation and stratification, along with *in vivo* experiments are needed.

Keywords: *Taraxacum*, extracts, antioxidant, free hydroxyl radicals, ABTS, DPPH, lipid peroxidation, lipoxygenase.