

# ANTIOXIDANT CAPACITY OF *LAMIACEAE* EXTRACTS POPULARLY USED IN HOUSEHOLD

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Reactive oxygen species and free radicals are generated daily by normal metabolic processes. The *Lamiaceae* family is a widespread family of flowering plants with a high content of phenolic compounds that are responsible for a pronounced antioxidant potential in the neutralization of free radicals. The aim of this study was to determine the antioxidant potential in samples of selected plant species of *Lamiaceae* and to compare their activity in traditional infusions and microwave prepared extracts.

10 the most popular plants (origano, lavender, basil, winter savory, garden thyme, wild thyme, sage, rosemary, lemon balm and mint) from the Institute "Dr Josif Pančić" were examined. Plant material was pulverized and extracts were prepared as infusion according to recommendations and instructions: 1 g of drug was poured with 200 ml of water and extracted for 10 minutes for traditional method and for 5 minutes in microwave for modern extraction. Antioxidant activity was tested by spectrophotometric method measuring inhibitory activity of DPPH (2,2-diphenyl-1-picrylhydrazyl) radical.

A The total extraction yield obtained by infusion ranged from 30.94 to 196.83 mg/g of dry extract, while the total yield obtained by microwave extraction ranged with slightly higher amounts from 33.70-250.55 mg/g of dry extract. All extracts showed a significant antioxidant activity with an IC<sub>50</sub> value in the range 3,73-8,03 µg/ml for traditional extracts and 2,63-7,7 µg/ml for modern extracts. The highest ability to scavenge free radicals was recorded with winter savory, thyme and mint.

Regardless of the choice of method, the selected plants of the *Lamiaceae* family showed noticeable antioxidant potential. Better results were obtained in microwave extracts which can be explored in different market applications in the future.

**Keywords:** *Lamiaceae*, antioxidant potential, extraction, household

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