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Czech J. Food Sci.

**Heilerová L., Bučková
M., Tarapčík P., Šilhár**

S., Labuda J.

**Comparison of
antioxidative activity
data for aqueous
extracts of lemon balm
(*Melissa officinalis* L.),
oregano (*Origanum
vulgare* L.), thyme
(*Thymus vulgaris* L.),
and agrimony
(*Agrimonia eupatoria*
L.) obtained by
conventional methods
and the DNA-based
biosensor**

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The antioxidative properties of aqueous plant extracts were evaluated using common methods such as the Rancimat and 2,2'-diphenyl-1-picrylhydrazyl

(DPPH) free radical method. Moreover, a voltammetric procedure based on the protective effect of antioxidants against the oxidative DNA damage was employed using a disposable DNA biosensor fabricated as a screen-printed electrode chemically modified by calf thymus double stranded (ds) DNA. The total polyphenols were also determined spectrophotometrically with the Folin-Ciocalteu agent. The extracts of oregano and lemon balm exhibited significantly higher activity than those of thyme and agrimony. The results were treated statistically and their operational character is discussed.

Keywords:

antioxidants; plant extracts; Rancimat method; DPPH radical; DNA biosensor

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