

عنوان مقاله:

Antioxidant Activity of Methanol and Ethanol Extracts of *Satureja hortensis* L. in Soybean Oil

محل انتشار:

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خلاصه مقاله:

Background: Considering the wide consumption of some synthetic antioxidants and their probable negative health effects, in this study, the protective effects of *Satureja hortensis* L. extracts in stabilizing soybean oil against oxidation at different concentrations (200 and 400 ppm) were tested. Methods: The aerial parts of *S. hortensis* L. were collected from Isfahan province and extracted with 100 ml methanol and ethanol. Soybean oil was selected due to its unsaturated fatty acids variety. Antioxidant activity of the extract was evaluated using 2, 2-diphenyl-1-picrylhydrazyl test. A β -carotene-linoleic acid assay was also applied for the antioxidant capacity. Total phenolic and flavonoid content, peroxide value and thiobarbituric acid-reactive substances (TBARs) were measured for the soybean oil samples. Experiments were carried out in triplicates and data were processed with ANOVA test by SPSS software (16.0). Results: *S. hortensis* L. extracts had significantly ($p \leq 0.05$) lower peroxide and thiobarbituric acid value of samples during storage at 60 °C. The half maximal inhibitory concentration (IC₅₀) values for methanol and ethanol extracts were 31.5 ± 0.7 and 37 ± 0 $\mu\text{g/ml}$, respectively. In the β -carotene/linoleic acid system, methanol and ethanol extracts exhibited $87.5\% \pm 1.41$ and $74\% \pm 2.25$ inhibitions against linoleic acid oxidation. The total phenolic and flavonoid contents of methanol and ethanol extracts were $(101.58 \pm 0.26 \text{ mg/g})$ and $(96 \pm 0.027 \text{ mg/g})$, $(44.91 \pm 0.14 \text{ mg/g})$ and $(14.3 \pm 0.12 \text{ mg/g})$ expressed in gallic acid and quercetin equivalents, respectively. Conclusion: Methanol and ethanol extracts of *S. hortensis* could be prepared and added to the commercial vegetable oils as natural antioxidant and so they may be suitable alternative for some synthetic antioxidants.

کلمات کلیدی:

Antioxidants. Plant Extracts. Soybean Oil

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