

عنوان مقاله:

Antioxidant Efficacy of Sesame (*Sesamum indicum* L.) Cake Extract on Stability of Refined Sesame Oil during Storage Time

محل انتشار:

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نویسندگان:

A. Sahrae Ardakani - *Department of Health and Food Quality Control, Faculty of Veterinary Medicine, Ardakan University, P.O. Box ۱۸۴, Ardakan, Iran*

H. Moshtaghi - *Department of Food Hygiene and Quality control, Faculty of Veterinary Medicine, Shahrekord University, Shahrekord, Iran*

H. Kiani - *Bioprocessing and Biodetection Lab, Department of Food Science and Technology, University of Tehran, Karaj, Iran*

S.A. Yasini Ardakani - *Department of Food Science, Islamic Azad University, Yazd, Iran*

G.H. Pourghanbari Marvast - *Department Clinical Science, Faculty of Veterinary Medicine, Ardakan University, P.O. Box ۱۸۴, Ardakan, Iran*

خلاصه مقاله:

Background: Sesame cake extract is the by-product left behind after sesame oil extraction including almost ۳۰% of protein and phytochemicals, which possess free radical scavenging activity. In this study, antioxidant activity of sesame cake extract on the quality of refined sesame oil has been evaluated under ۶۰ °C during storage time. **Methods:** After extraction of ethanolic extract, sesame oil was treated with concentrations of ۰، ۲۰، ۵۰، and ۱۰۰ ppm of sesame cake extract and stored at ۶۰ °C for ۳۰ days. The sesame cake and refined sesame oil were taken from Yazd province and extracted with ethanol. Total Phenolic Content (TPC) (at the beginning of the study) and ۲,۲-Diphenyl-۱-Picrylhydrazyl (DPPH) radical scavenging capacity (۳۰ days after inoculation) were evaluated. The antioxidant activity of various dilution of the Sesame Cake Ethanol Extract (SCEE) was assessed by measuring, rancimat analysis, Peroxide Value (PV), and Thiobarbituric Acid (TBA) assay, and also evaluation of the TPC. Butylated Hydroxyanisole (BHA) as a synthetic antioxidant was used. Experiments were carried out in triplicates and data were processed with ANOVA test by SPSS Software. **Results:** Radical-scavenging capabilities of SCEE were significantly larger than the group without SCEE but it was detected to be lower than the BHA group. The induction period (IP) of sesame oil raised as the concentration of SCEE increased. All concentrations of SCEE were able to decline the PV and TBA value. Also, the group containing BHA and ۱۰۰ µg/ml of SCEE significantly showed the same antioxidant activity ($p \leq 0.05$). **Conclusion:** The SCEE as a natural substance can prevent lipid oxidation of the refined sesame oil like synthetic antioxidants. DOI: ۱۰.۱۸۵۰۲/jfqhc.۱۰.۲.۱۲۶۷۱

کلمات کلیدی:

Sesame Oil, Antioxidants, Plant Extracts, Seeds

