

USE OF MEDICINAL AND AROMATIC PLANTS FOR INCREASING QUALITY OF SOME BAKERY PRODUCTS

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Abstract. The present study was performed to use medicinal herbs (anise, black cumin, rosemary and sage as natural antioxidants and antimicrobial to increase shelf-life of some bakery products. Essential oils and phenolic compounds of selected herbs were extracted and quantitative determined. Essential oils components and phenolic compounds of herbs were fractionated by Gas Chromatography Mass Spectrum Technique (GC-MS). Essential oils and phenolic compounds of herbs were added at different concentrations (200, 400, 800 and 1000ppm) and BHT (200ppm) to sunflower oil and determined stability by Rancimat method at 100°C±2°C. Also, were screened against four gram-negative bacteria (*Escherichia coli*, *Klebsiella Pneumoniae*, *Pseudomonas aeruginosa* and *Proteus vulgaris*) and two gram positive bacteria (*Bacillus subtilis* and *Staphylococcus aureus*) at four different concentrations using disc diffusion method. Essential oils and phenolic compounds of selected herbs and BHT were added to cake and determined peroxide value during storage and sensory evaluation. The results indicated that addition of essential oils and phenolic compounds of herbs prolonged the oxidative stability of sunflower oil and can be a good source of antibacterial agents.

Key words: Medicinal plants, essential oils, Phenolic compounds, antioxidant, antimicrobial.

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