

# **Effect of walnut leaf extract on the shelf-life, microbial and physicochemical properties of chicken fillet**

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**With the proven of chemical preservatives harmful effects on the human health, the attention of researchers and people to the use of plant origin preservatives instead of chemical preservatives have been drawn. Walnut leaves, due to having high antioxidant and antibacterial effects, is a good choice as a natural antioxidant. To gain the extract, the leaves of the walnut tree were sufficiently prepared and dried. Then after extraction with ethanol solvent at the temperature of 30 ° C and 50-60 Hz frequency, extraction was done by ultrasound apparatus and then the GC analysis was performed to evaluate compositions of extract. To determine the microbial load of chicken meat and isolate the existing microorganisms, EMB and MSA culture media were used to study the presence of Escherichia coli and Staphylococcus aureus respectively. Antibacterial activity of six concentration of walnut leaf extract aqueous (100, 200, 400 , 800, 1000, 2000) was performed by well diffusion method in agar and measured by the inhibitory halo. Three concentrations that showed the best results were ed to evaluate the effect of the extract on chicken meat shelf life at 4 ° C. For this purpose, meat samples were subjected to four treatments: T0 (control), T1 (800ppm), T2 (1000 ppm) and T3 (2000 ppm). Chemical tests including pH measurements, oxidation measurements, thiobarbituric acid, Met myoglobin, and microbial tests including total microbial load, counting Escherichia coli, Staphylococcus aureus, and coliform were evaluated on days 0, 3, 6, 9 and 12 with organoleptic analysis. The results indicated that incorporation of walnut leaf extract on chicken fillets caused the delay of lipid peroxidation and microbial spoilage. In this respect, the sample supplemented with 2000 ppm aqueous extract was more effective compared with the 1000 and 800 ppm in extending the shelf life of chicken fillets (P**

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