

Applying *Cynara cardunculus* L. leaf extracts to increase poultry meat shelf life

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Cardoon, *Cynara cardunculus* L. (Asteraceae), is a multipurpose crop. Its flower is used as vegetal rennet in the production of some cheeses, and its leaves, the main by-product generated, have excellent antioxidant and antimicrobial activities. These properties may be an asset in the food industry, as cardoons' leaves may be used to delay lipid oxidation and microbial growth, thus prolonging foods' shelf life.

This study aims to evaluate the effectiveness of cultivated cardoon and globe artichoke leaf ethanolic extracts on poultry meat preservation. Extracts were mixed with the poultry meat (1% w/w) and stored under refrigeration (5°C ± 2°C) for 15 days. The microbiological growth was evaluated as well as moisture, pH, acidity, colour, Total Volatile Basic Nitrogen (TVBN), and lipid oxidation by Thiobarbituric Acid Reactive Substances (TBARS).

Both extracts were effective in retarding microbial growth by maintaining a constant pH and level of acidity. After 15 days, poultry meat with both extracts showed a difference of up to 11 log CFU/g compared to control samples (without extract). Also, both extracts were able to reduce the lipid oxidation of the poultry meat when compared to the control samples at the end of the assay. The colour of extracts can be a limitation due to the greenish-yellow colour that is seen in the meat, although it was more evident in the sample with the cardoon extract. Overall, cardoon extract was the most effective in extending the shelf life of poultry meat.

Keywords: Cardoon; by-products; antioxidant; antimicrobial; natural additive.

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